JAMA Surgery | Original Investigation

Global Incidence and Risk Factors Associated With Postoperative Urinary Retention Following Elective Inguinal Hernia Repair

The Retention of Urine After Inguinal Hernia Elective Repair (RETAINER I) Study

Stefanie M. Croghan, MSc; Helen M. Mohan, PhD; Kieran J. Breen, MD; Ruth McGovern, BM, BS; Kathleen E. Bennett, PhD; Michael R. Boland, MCh; Muhammed Elhadi, MBBCh; Jessie A. Elliott, PhD; Anna C. Fullard, BM, BS; Peter E. Lonergan, MD; Frank McDermott, MD; Asif Mehraj, MS; Francesco Pata, PhD; David M. Quinlan, MD; Des C. Winter, MD; Jarlath C. Bolger, PhD; Christina A. Fleming, PhD; for the RETAINER I Study Group of the Irish Surgical Research Collaborative

IMPORTANCE Postoperative urinary retention (POUR) is a well-recognized complication of inguinal hernia repair (IHR). A variable incidence of POUR has previously been reported in this context, and contradictory evidence surrounds potential risk factors.

OBJECTIVE To ascertain the incidence of, explore risk factors for, and determine the health service outcomes of POUR following elective IHR.

DESIGN, SETTING, AND PARTICIPANTS The Retention of Urine After Inguinal Hernia Elective Repair (RETAINER I) study, an international, prospective cohort study, recruited participants between March 1 and October 31, 2021. This study was conducted across 209 centers in 32 countries in a consecutive sample of adult patients undergoing elective IHR.

EXPOSURE Open or minimally invasive IHR by any surgical technique, under local, neuraxial regional, or general anesthesia.

MAIN OUTCOMES AND MEASURES The primary outcome was the incidence of POUR following elective IHR. Secondary outcomes were perioperative risk factors, management, clinical consequences, and health service outcomes of POUR. A preoperative International Prostate Symptom Score was measured in male patients.

RESULTS In total, 4151 patients (3882 male and 269 female; median [IQR] age, 56 [43-68] years) were studied. Inguinal hernia repair was commenced via an open surgical approach in 82.2% of patients (n = 3414) and minimally invasive surgery in 17.8% (n = 737). The primary form of anesthesia was general in 40.9% of patients (n = 1696), neuraxial regional in 45.8% (n = 1902), and local in 10.7% (n = 446). Postoperative urinary retention occurred in 5.8% of male patients (n = 224), 2.97% of female patients (n = 8), and 9.5% (119 of 1252) of male patients aged 65 years or older. Risk factors for POUR after adjusted analyses included increasing age, anticholinergic medication, history of urinary retention, constipation, out-of-hours surgery, involvement of urinary bladder within the hernia, temporary intraoperative urethral catheterization, and increasing operative duration. Postoperative urinary retention was the primary reason for 27.8% of unplanned day-case surgery admissions (n = 74) and 51.8% of 30-day readmissions (n = 72).

CONCLUSIONS The findings of this cohort study suggest that 1 in 17 male patients, 1 in 11 male patients aged 65 years or older, and 1 in 34 female patients may develop POUR following IHR. These findings could inform preoperative patient counseling. In addition, awareness of modifiable risk factors may help to identify patients at increased risk of POUR who may benefit from perioperative risk mitigation strategies.

Invited Commentary page 874

Supplemental content

Author Affiliations: Author affiliations are listed at the end of this article.

Group Information: A complete list of the members of the RETAINER I Study Group of the Irish Surgical Research Collaborative appears in Supplement 2.

Corresponding Author: Stefanie M. Croghan, MSc, Irish Surgical Research Collaborative, Royal College of Surgeons, St Stephen's Green, Dublin D13, Ireland (stefaniecroghan@rcsi.ie).

JAMA Surg. 2023;158(8):865-873. doi:10.1001/jamasurg.2023.2137
Published online July 5, 2023. Corrected on August 23, 2023.

© 2023 American Medical Association. All rights reserved.

Downloaded From: https://jamanetwork.com/ by a IRCCS Ist. Naz. Studio e Cura Tumori "G. Pascale" User on 10/24/2023

Inguinal hernia repair (IHR) is one of the most frequently performed surgical procedures worldwide, with approximately 27% of men and 3% of women undergoing IHR in a lifetime.[1] Postoperative urinary retention (POUR) is a well-recognized complication of IHR.[2] Published literature has described a highly variable incidence (0.4%-41.6%) of POUR following IHR, without a clear correlation with surgical technique or other variables.[2-20] Sequelae of POUR may include pain, autonomic dysregulation, urinary tract infection (UTI), and bladder overdistension or long-term voiding dysfunction.[21,22] Urethral catheterization may lead to patient distress, urethral trauma, UTI or bacteremia, impaired mobility, delirium, prolongation of hospital stay, and urethral stricture development.[22-25] In addition, IHR-POUR poses significant financial and logistical burdens to health care services. Postoperative urinary retention may cause 20% to 25% of unplanned admissions following ambulatory general surgical procedures.[26,27] Furthermore, POUR may present following discharge, requiring emergency department attendance, and frequently requires short-interval follow-up with specialist services.

A number of potential risk factors have been both proposed and refuted in the development of POUR following IHR, including choice of a minimally invasive surgical approach,[3,7,10] performance of bilateral synchronous IHR,[3-5] use of spinal anesthesia,[3,28,29] administration of narcotic analgesia,[5] infusion of higher volumes of intravenous fluid perioperatively,[5,21] and a preexisting diagnosis of benign prostatic hyperplasia.[3,5] In addition, perioperative α-blockade has been both supported and disputed as exerting a protective role against IHR-POUR.[15,30] Much evidence has arisen from single-center studies, many of which were retrospective in design, and the contradictory nature of these findings means that uncertainty prevails. The Retention of Urine After Inguinal Hernia Elective Repair (RETAINER I) study aimed to definitively determine the incidence of IHR-POUR in a large, international, multicenter cohort to identify risk factors for its evolution and to evaluate the outcomes of POUR associated with health care services.

Key Points

Question What is the incidence of postoperative urinary retention (POUR) following elective inguinal hernia repair (IHR), and what risk factors are associated with POUR?

Findings In this cohort study of 4151 adult patients across 32 countries, the incidence of POUR after IHR was 5.8% in men, 2.97% in women, and 9.5% in men 65 years or older. Significant risk factors were patient age, anticholinergic medication, history of urinary retention, constipation, out-of-hours surgery, involvement of urinary bladder within the hernia, temporary intraoperative urethral catheterization, and operative duration.

Meaning The incidence of POUR following elective IHR was high in this study, with a number of potentially modifiable risk factors, which could help to identify patients at increased risk of POUR who may benefit from perioperative risk mitigation strategies.

Methods

Study Design

The RETAINER I study was an international, multicenter, prospective cohort study, with a published protocol.[31] The full collaborative structure is described in eMethods 1 in Supplement 1. This cohort study was approved by the ethics review board of the index center (University Hospital Limerick) and reviewed or waived by the boards of subsequently enrolled centers in accordance with local requirements. Verbal and/or written patient consent was sought in compliance with requirements of each participating center. This study complied with the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) reporting guideline.[32]

Inclusion and Exclusion Criteria

All patients aged 18 years or older undergoing elective IHR were eligible for inclusion. Patients undergoing emergency IHR, those with an indwelling urinary catheter or urinary diversion, and those routinely performing self-catheterization were excluded.

Outcome Measures

The primary end point was the incidence of POUR following elective IHR. Secondary outcomes were associations of perioperative variables with POUR and the management, clinical consequences, and health service outcomes of IHR-POUR. Thirty-day follow-up was completed.

Study Definitions

In the absence of a universally accepted definition,[21] the multispecialty trial management committee agreed on a POUR definition as the inability to void, with the patient needing bladder decompression by catheterization as determined by the treating clinician within 1 week of IHR. Definitions of POUR complications are listed in eMethods 2 in Supplement 1.

Data Collection Methods

Standardized data collection templates were used. The International Prostate Symptom Score (IPSS), a validated self-administered questionnaire assessing male lower urinary tract symptoms,[33,34] was requested from male patients (translations via PROVIDE; Mapi Research Trust). A preoperative postvoid residual urine volume was recorded where feasible. Anonymized data were collated centrally using REDCap software (Vanderbilt University), centrally supported by the Royal College of Surgeons in Ireland.

Sample Size, Statistical Power, Missing Data, and Pilot Study

Using anesthetic technique (spinal vs general) as the hypothesized major risk factor and estimating a 5% to 10% incidence of POUR, with a 5% difference between groups (α = .05; power, 90%), we estimated a required sample size of 1162 patients and set target enrollment at greater than 1500. Given the need to maintain equal participation opportunities for all enrolled centers, alongside the possibility of a lower incidence of POUR and multiple potential risk factors, we decided that recruitment would not be terminated before the formal study completion date.

© 2023 American Medical Association. All rights reserved.

Downloaded From: https://jamanetwork.com/ by a IRCCS Ist. Naz. Studio e Cura Tumori "G. Pascale" User on 10/24/2023

In the instance of loss to follow-up, or where data regarding the primary outcome (POUR) were unavailable, patients were excluded from all analyses (**Figure 1**). Where data relating to descriptive secondary outcomes were absent for a particular patient, this was reported as not recorded. A 3-week pilot study was conducted in a single center in advance of study launch and confirmed the feasibility of recruitment and study methodology.

Adaptations Due to the COVID-19 Pandemic

The first wave of the SARS-CoV-2 pandemic in 2020 severely affected health care systems immediately prior to the intended launch of RETAINER I, with IHR deprioritized in many centers.[35] Accordingly, 2 postponements of the launch date occurred until March 2021, and a pragmatic approach was applied, with site leaders permitted to select the most feasible data collection block (minimum, 4 weeks; aim, 12 weeks) for their center over a 6-month period.

Statistical Analysis

Statistical analysis was performed using Stata, version 16 software (StataCorp LLC). Descriptive statistics were used for basic demographic characteristics and incidence of POUR. Univariable analysis was applied to postulated risk factors for the development of POUR in male and female patient cohorts using 2-sample *t* tests, the χ^2 test of association, and odds ratios (ORs). Clinically expected and significant risk factors on univariable analysis in male patients were examined in a multivariable logistic regression. A 2-sided $P < .05$ was considered statistically significant. Multivariable regression analysis was not applied to the female patient cohort given the low incidence of POUR.

Results

Geographic Enrollment and Patient Characteristics

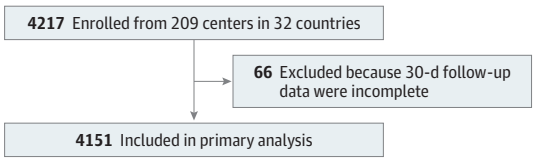
From March 1 to October 31, 2021, 4217 patients were enrolled in RETAINER I, with complete 30-day follow-up data received on 98.4% (n = 4151) from 209 centers located in 32 countries (Figure 1). Participating centers were geographically distributed across all major continents (eTable 1 and eFigure 1 in Supplement 1). As stratified by country income category,[36] 43.7% of patients (n = 1815) were recruited from high-income countries, 44.4% (n = 1843) from lower- to upper-middle-income countries, and 10.3% (n = 426) from low-income countries.

Patient characteristics are presented in **Table 1**. The cohort comprised 3882 men and 269 women (median [IQR] age, 56 [43-68] years), and most patients had an American Society of Anesthesiologists (ASA) score of 1 or 2. Median body mass index (measured by weight in kilograms divided by height in meters squared) was 25 (IQR, 23-28).

Surgical and Anesthetic Practice

Surgical and anesthetic variables are outlined in Table 1. Inguinal hernia repair was commenced via an open surgical approach in 82.2% of patients (n = 3414) and minimally invasive surgery in 17.8% (n = 737). Inguinal hernia repair was performed via an open approach in 82.5% of male patients (n = 3201) and 79.2% of female patients (n = 213), without significant differences between sexes. Of 737 minimally invasive cases, 96.4% (n = 697) were completed laparoscopically and 3.5% (n = 26) with robotic assistance, with open conversion in 1.9% (n = 14). Mesh was used in the majority of patients (92.5% [n = 3838]). Primary anesthesia was general in 40.9% (n = 1696), neuraxial regional (NRA) in 45.8% (n = 1902), and local in 10.7% (n = 446). Female sex was associated with general anesthesia (OR, 1.4; 95% CI, 1.1-1.9; $P = .004$).

Figure 1. Flow Diagram of Patients Enrolled in the Retention of Urine After Inguinal Hernia Elective Repair (RETAINER I) Study



Shown are numbers included in the final analysis and their representation of country income and sex categories.

Incidence, Diagnosis, and Management of POUR

The primary outcome, POUR, occurred in 5.8% of male patients (n = 224) and 2.97% of female patients (n = 8), with an incidence of 9.5% (n = 119) in male patients older than 65 years (eFigures 1 and 2 in Supplement 1). Postoperative urinary retention was diagnosed on the day of surgery in 68.4% of patients (n = 154) and on postoperative day 1 in 12.9% (n = 29). Timing of diagnosis did not differ between sexes or among male patients of any age. A diagnosis of POUR was most commonly based on failure to void and suprapubic discomfort (**Table 2**). Of patients catheterized on the day of surgery having not voided postoperatively (n = 140), the timing of urinary catheter insertion from procedure completion time was less than 4 hours in 20.0% (n = 28), 4 to 7 hours in 55.0% (n = 77), and 8 hours or longer in 25.0% (n = 35). The proportion of patients catheterized within 4 hours was not associated with the time of day at which surgery was performed. Management of POUR was described in 93.1% (216 of 232) of patients, with indwelling urethral catheterization in 95.4% (n = 206), intermittent catheterization in 2.8% (n = 6), and suprapubic catheterization in 1.9% (n = 4) (Table 2).

Risk Factors for POUR

Associations between the development of POUR and perioperative variables in both male and female patients on univariable analysis are presented in eTable 2 in Supplement 1. An apparent, possibly confounded, association was observed between α-blocker and 5α-reductase inhibitor use and POUR on univariable analysis. On adjusted multivariable analysis in male patients (**Table 3**; **Figure 2**; eFigure 1 in Supplement 1), significant associations with POUR were seen with increasing patient age (adjusted OR, 1.02; 95% CI,

© 2023 American Medical Association. All rights reserved.

Downloaded From: https://jamanetwork.com/ by a IRCCS Ist. Naz. Studio e Cura Tumori "G. Pascale" User on 10/24/2023

Table 1. Demographic, Clinical, and Operative Characteristics of Patients Who Underwent Inguinal Hernia Repair

Characteristic	% (No.)			*P* value
	All patients (n = 4151)	Male sex (n = 3882)	Female sex (n = 269)	
Age, median (IQR), y	56 (43-68)	57 (43-68)	53 (43-67)	.23
BMI, median (IQR)	25 (23-28)	25 (23-28)	25 (23-29)	.80
ASA score				
I	44.0 (1825)	43.6 (1693)	49.1 (132)	.08
II	42.8 (1778)	43.1 (1672)	39.4 (106)	.24
III	11.7 (486)	11.3 (455)	11.5 (31)	.92
>III	1.5 (60)	1.6 (60)	NA	NA
Surgical approach				
Open	82.2 (3414)	82.5 (3201)	79.2 (213)	.18
Laparoscopic	16.8 (697)	16.6 (643)	20.1 (54)	.13
Robotic	0.6 (26)	0.6 (24)	0.7 (2)	
MIS converted	0.3 (14)	0.4 (14)	NA	NA
Laterality				
Right	49.0 (2034)	49.1 (1904)	48.3 (130)	.76
Left	38.7 (1605)	38.8 (1505)	37.2 (100)	.60
Bilateral	12.3 (510)	12.1 (471)	14.5 (39)	.25
Primary anesthetic				
General	40.9 (1696)	40.3 (1564)	49.1 (132)	.005
Neuraxial regional	45.8 (1902)	46.3 (1799)	38.3 (103)	.01
Local	10.7 (446)	10.8 (419)	10.1 (27)	.70
Unknown	2.6 (107)	2.6 (100)	2.6 (7)	NA
Mesh repair	92.5 (3838)	92.7 (3598)	89.2 (240)	.04

Abbreviations: ASA, American Society of Anesthesiologists; BMI, body mass index (as measured by weight in kilograms divided by height in meters squared); MIS, minimally invasive surgery; NA, not available.

1.01-1.03; *P* = .003), use of anticholinergic medication (adjusted OR, 2.38; 95% CI, 1.02-5.52; *P* = .04), a history of urinary retention (adjusted OR, 3.71; 95% CI, 2.51-5.47; *P* < .001), constipation (bowels not opened for >2 days preoperatively) (adjusted OR, 3.13; 95% CI, 1.31-7.48; *P* = .01), IHR performed after 5:00 PM (adjusted OR, 2.21; 95% CI, 1.42-3.47; *P* = .001), involvement of urinary bladder within hernia sac (adjusted OR, 3.24; 95% CI, 1.76-5.98; *P* < .001), temporary intraoperative urethral catheterization (adjusted OR, 1.96; 95% CI, 1.37-2.81; *P* < .001), and increasing operative duration (60-120 vs <30 minutes: adjusted OR, 3.26; 95% CI, 1.19-8.92; *P* = .021). Neuraxial regional anesthesia (spinal or epidural) was associated with decreased POUR vs general anesthesia (adjusted OR, 0.70; 95% CI, 0.50-0.997; *P* = .048); local anesthesia showed reduced POUR vs general anesthesia but without statistical significance on multivariable analysis. On univariable analysis of NRA, the use of short-acting opioids (eg, fentanyl, sufentanil) was associated with increased POUR compared with nonopioid administrations (eg, bupivacaine, levobupivacaine) alone (adjusted OR, 1.73; 95% CI, 1.12-2.67; *P* = .01). Short-acting opioids were used in 555 of 1839 patients with NRA recorded (30.2%).

Regarding application of nonroutine preoperative assessments, a linear increase in POUR was seen among mild, moderate, and severe IPSS categories on univariable analysis (POUR occurrence with severe vs mild scores: OR, 2.96; 95% CI, 1.9-4.7; *P* < .001) (eTable 2 in Supplement 1). A preoperative postvoid residual bladder volume was available for 442 patients; a value of greater than 150 mL showed a significant association with POUR (OR, 2.96; 95% CI, 1.8-5.1; *P* < .001) but was not included in the multivariable regression analysis due to a low number of observations vs other variables.

Acute Clinical and Health Service Outcomes of POUR

Postoperative urinary retention was associated with suspected UTI in 28.4% of patients (n = 66) and acute kidney injury (AKI) in 3% (n = 7) (Table 2). No difference was observed in UTI diagnosis between male and female patients, among male age categories, or in AKI diagnosis between these subgroups. Traumatic catheterization occurred in 19.0% of patients (n = 44), with male patients aged 65 years or older being the most vulnerable. Bladder spasm due to the presence of a catheter was reported in 33.2% of patients (n = 77).

Of the entire cohort, unplanned overnight admission from day-case surgery pathways occurred in 6.41% of patients (n = 266), and 30-day hospital readmission occurred in 3.3% (n = 139) (Table 2). Postoperative urinary retention was the primary reason for unplanned day-case surgery admission in 27.8% of patients (n = 74) overall and 44.6% of male patients aged 65 years or older (n = 37). Postoperative urinary retention was the primary cause of 30-day readmission in 51.8% of patients (n = 72) overall and 60.3% of male patients 65 years or older (n = 38).

© 2023 American Medical Association. All rights reserved.

Downloaded From: https://jamanetwork.com/ by a IRCCS Ist. Naz. Studio e Cura Tumori "G. Pascale" User on 10/24/2023

Table 2. Postoperative Urinary Retention (POUR) in Patients Following Inguinal Hernia Repair

Variable	% (No. of total No. with available data)		
	Male		
	Aged <65 y (n = 2628)	Aged ≥65 y (n = 1252)	Female (n = 269)
Incidence of POUR	4.0 (105 of 2628)	9.5 (119 of 1252)	3.0 (8 of 269)
Diagnostic criteria (multiple permitted)			
Failure to void	82.9 (87 of 105)	83.2 (99 of 119)	62.5 (5 of 8)
Suprapubic discomfort	45.7 (48 of 105)	52.1 (62 of 119)	37.5 (3 of 8)
Palpable bladder	31.4 (33 of 105)	25.2 (30 of 119)	25 (2 of 8)
Bladder scan reading	5.7 (6 of 105)	13.4 (16 of 119)	12.5 (1 of 6)
Timing			
Day of surgery	70.6 (72 of 102)	66.4 (77 of 116)	71.4 (5 of 7)
Postoperative day 1	10.8 (11 of 102)	15.5 (18 of 116)	0
Postoperative days 2-3	7.8 (8 of 102)	12 (14 of 116)	14.3 (1 of 7)
Postoperative days 4-7	10.8 (11 of 102)	6 (7 of 116)	14.3 (1 of 7)
Not recorded	2.86 (3 of 105)	2.6 (3 of 119)	12.5 (1 of 8)
Management			
Indwelling catheter (urethral)	96.8 (92 of 95)	93.8 (107 of 114)	100 (7 of 7)
Indwelling catheter (suprapubic)	2.1 (2 of 95)	1.8 (2 of 114)	0
Intermittent catheterization	1.1 (1 of 95)	4.4 (5 of 114)	0
Not recorded	9.5 (10 of 105)	4.4 (5 of 114)	12.5 (1 of 8)
Associated complications			
Acute kidney injury	2.9 (3 of 105)	2.6 (3 of 114)	16.7 (1 of 6)
Urinary tract infection	24.5 (25 of 102)	34.8 (40 of 115)	14.3 (1 of 7)
Bladder spasm	38.6 (39 of 101)	31.6 (36 of 114)	28.6 (2 of 7)
Traumatic catheterization	8.6 (9 of 105)	28.6 (34 of 119)	12.5 (1 of 8)
Catheter dislodgment	0	5.9 (7 of 119)	0
Hematuria	11.4 (12 of 105)	14.3 (17 of 119)	0
Delirium	0	2.5 (3 of 119)	0
Impaired mobility	17.1 (18 of 105)	8.4 (10 of 119)	12.5 (1 of 8)
Unplanned overnight admission			
All cause, entire cohort	6.2 (164)	6.6 (83)	7.1 (19 of 269)
Due to POUR	1.2 (31 of 2628) of cohort; 18.9 of unplanned admissions (31 of 164)	3.0 (37 of 1252) of cohort; 44.6 of unplanned admissions (37 of 83)	2.2 (6 of 269) of cohort; 31.6 of unplanned admissions (6 of 19)
Readmission			
All cause, entire cohort	2.4 (64 of 2628)	5.0 (63 of 1252)	4.5 (12 of 269)
Due to POUR	1.1 (29 of 2628) of cohort; 45.3 of readmissions (29 of 64)	3.0 (38 of 1252) of cohort; 60.3 of readmissions (38 of 63)	1.9 (5 of 269) of cohort; 41.7 of readmissions (5 of 12)
Discharged with indwelling catheter following admission	12.4 (13 of 105)	26.9 (32 of 119)	0
Successful trial without catheter (by 30-d follow-up, without requirement for intermittent self-catheterization)	65.3 (66 of 101)	68.1 (79 of 116)	66.7 (4 of 6)
≥2 Catheter removal attempts (where indwelling catheter inserted and removal attempted)	25.8 (23 of 89)	31.9 (37 of 116)	14.3 (1 of 7)

Outcomes of POUR

Voiding outcomes following POUR are outlined in Table 2. At 30-day follow-up, 66.8% of patients with data (149 of 223) had resumed normal voiding. First trial of voiding (TOV) was successful in 40.9% of cases (95 of 232). The likelihood of a successful first TOV did not differ among male patients of any age, between male and female patients, or when first TOV was performed on the first postoperative day as opposed to a deferred date.

Discussion

The RETAINER I study identified an incidence of POUR of 4.0% in male patients younger than 65 years, 9.5% in males 65 years or older, and approximately 3% in female patients following IHR in a global cohort of more than 4000 patients. Clinical sequelae included UTI, AKI, bladder spasm, traumatic catheterization, and unsuccessful TOV. Additionally, POUR was found

© 2023 American Medical Association. All rights reserved.

Downloaded From: https://jamanetwork.com/ by a IRCCS Ist. Naz. Studio e Cura Tumori "G. Pascale" User on 10/24/2023

Table 3. Multivariable Logistic Regression of Risk Factors for Postoperative Urinary Retention Following Inguinal Hernia Repair in Male Patients

Variable	OR (95% CI)		*P* value
	Unadjusted	Adjusted	
Increasing patient age	1.03 (1.02-1.04)	1.02 (1.01-1.03)	.003
Taking vs not taking anticholinergic medication	5.13 (2.50-10.55)	2.38 (1.02-5.52)	.04
Benign prostatic enlargement, diagnosed vs qasurgically treated or never diagnosed	2.44 (1.79-3.33)	1.14 (0.78-1.69)	.50
Previous urinary retention, yes vs no	6.79 (4.97-9.26)	3.71 (2.51-5.47)	<.001
Increasing IPSS score (numeric)	1.06 (1.04-1.08)	1.02 (0.998-1.041)	.07
Constipation			
Bowels last opened: 2 d before vs 1 d before surgery	1.37 (0.79-2.36)	0.86 (0.44-1.67)	.66
Bowels last opened: >2 d before vs 1 d before surgery	3.32 (1.54-7.18)	3.13 (1.31-7.48)	.01
Time of surgery			
1:00 PM-5:00 PM vs 7:00 AM-1:00 PM	0.89 (0.64-1.24)	0.78 (0.54-1.14)	.20
After 5:00 PM vs 7:00 AM-1:00 PM	2.20 (1.48-3.27)	2.21 (1.42-3.47)	.001
Laterality, bilateral vs unilateral	1.52 (1.06-2.18)	1.12 (0.72-1.74)	.61
Minimally invasive vs open or converted surgical approach	0.89 (0.61-1.28)	0.64 (0.41-1.02)	.06
Bladder involved vs not involved in hernia	5.78 (3.42-9.76)	3.24 (1.76-5.98)	<.001
Primary anesthesia			
Neuraxial regional vs general	0.62 (0.46-0.82)	0.70 (0.50-0.997)	.048
Local vs general	0.35 (0.19-0.65)	0.55 (0.28-1.10)	.09
Temporary urethral catheterization inserted vs not inserted	3.60 (2.72-4.78)	1.96 (1.37-2.81)	<.001
Operative duration			
30-60 min vs <30 min	1.57 (0.68-3.62)	1.85 (0.68-5.04)	.23
60-120 min vs <30 min	2.98 (1.29-6.87)	3.26 (1.19-8.92)	.02
>120 min vs <30 min	3.40 (1.31-8.81)	3.44 (1.09-10.80)	.03
Drain used vs not used	1.75 (1.26-2.43)	1.13 (0.75-1.70)	.55

Abbreviations: IPSS, International Prostate Symptom Score; OR, odds ratio.

to be associated with a substantial need for and use of acute health care services. More than 1 in 4 unplanned day-case surgery admissions were attributable to POUR, exceeding even the quoted 20% to 25% for general ambulatory procedures.[26,27] One in two 30-day readmissions were attributable to POUR; as 7-day POUR was recorded exclusively, the relative contribution to 1-week readmissions may be greater still.

The incidence of POUR following IHR in other studies has varied substantially, with incidence rates of 1.4% to 22.2% reported after minimally invasive IHR[3,5,7,9-11,14]; 0.7% to 38% following open IHR[7,10,37,38]; and 0.8% to 13% in mixed cohorts.[4,39] This wide variation may reflect heterogeneity in both practice and data recording. Many studies have been retrospective or single center in design. The RETAINER I study is the largest in this area, with a prospective design and global distribution tailored to identify the true incidence of POUR in a diverse international population.

An understanding of factors associated with POUR is desirable for identification of susceptible patients and risk mitigation measures. Increasing patient age was associated with a higher incidence of POUR, as previously reported.[5,13,40] The single most significant risk factor for POUR on multivariable analysis was a previous history of urinary retention, with an almost 4-fold increased odds. Although not well recorded in other hernia surgery studies, a previous history has been recognized as a significant variable in urinary retention in male populations.[41,42] While the preoperative IPSS category was associated with POUR on univariable analysis, significance was not confirmed on multivariable analysis, possibly limited by its application across a diverse age range, with young men experiencing high scores that may reflect overactive bladder as opposed to obstruction. A postvoid bladder volume of greater than 150 mL was associated with an increased risk of POUR. Due to disparities in access to bladder scanners, this data point was not mandatory and not included in the multivariable model; however, it bears consideration as a simple measure in institutions with the necessary resources. We observed that increasing operative duration was associated with increased POUR, as did Hudak et al,[4] who described an 11% increase in POUR for every 10-minute increase in surgical time.

In addition, a number of modifiable risk factors for POUR emerged. Both anticholinergic medication use and constipation were associated with POUR on adjusted analyses. These risk factors for acute urinary retention in the general population[43,44] have not been prospectively studied in a large IHR population, and they may be particularly noteworthy to address in preoperative optimization strategies. Intraoperatively, temporary urethral catheterization was associated with almost 2-fold increased odds of POUR, which has not been previously shown, although other recent studies have questioned the benefit of the practice.[40,45] Urologic instrumentation is a known risk factor for urinary retention.[41] Although an empty bladder is desirable prior to port placement for minimally invasive surgery, this may be achievable by preoperative voiding. Where catheterization is nec-

© 2023 American Medical Association. All rights reserved.

Downloaded From: https://jamanetwork.com/ by a IRCCS Ist. Naz. Studio e Cura Tumori "G. Pascale" User on 10/24/2023

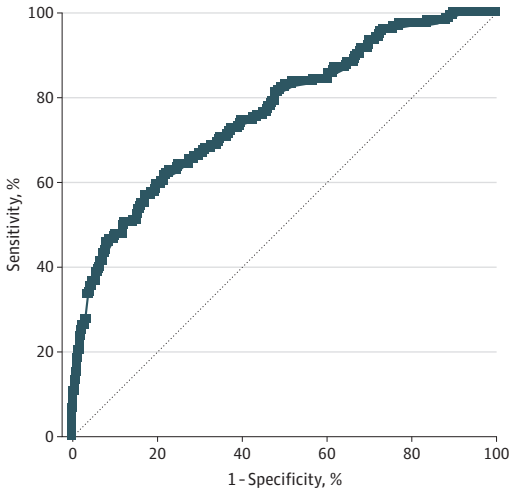
essary, consideration of the indwelling catheter remaining overnight may be worthwhile, particularly if other POUR risk factors exist. Intravenous fluid volume exceeding 500 mL also emerged as a possible risk factor for POUR, possibly explained by bladder overdistension reducing detrusor muscle contractility.[21]

Regarding choice of anesthesia, the lowest incidence of POUR was seen among patients receiving local anesthesia alone, consistent with previous findings.[40,46] On multivariable analysis, NRA (spinal or epidural) was associated with a lower odds of POUR vs general anesthesia. Similar findings have been reported by other authors,[37] although a recent network meta-analysis found a higher POUR risk after NRA vs general anesthesia.[46] The global diversity of RETAINER I was associated with variance among anesthetic agents. Where a muscle relaxant is necessary to facilitate tracheal intubation for general anesthesia, reversal is required with the use of traditional anticholingeric agents or newer cyclodextrin agents, such as sugammadex. The antimuscarinic properties of the former are associated with urinary retention. The observed increased incidence of POUR following general anesthesia may be secondary to the use of anticholingeric agents, particularly in geographic regions with limited access to costly alternative agents. Among patients receiving NRA, a higher incidence of POUR was seen with the addition of short-acting opioids; however, their use was recorded in only a relatively small subset of patients receiving NRA. Practice variations in administration of a short-acting, opioid-containing NRA and use of older-generation general anesthesia agents could explain discrepancies in published data regarding associations between anesthetic choice and POUR.

A minimally invasive surgical approach accounted for 17.8% of IHR in this global cohort, which is similar to the 13% to 18% rate reported by international surgeons in an earlier snapshot study by the RETAINER Collaborative Group, Irish Surgical Research Collaborative.[35] It is possible that the early stage of the COVID-19 pandemic was associated with some practice shifts toward open surgery and local and regional anesthesia and with a slightly lower minimally invasive surgical rate than might have been encountered at another time. Other studies reported conflicting findings regarding IHR surgical approach, with minimally invasive vs open surgery reported to both increase[47] and decrease[39] the risk of POUR. Results may be confounded by surgical duration, pain control, and preponderance of a general anesthetic approach in minimally invasive surgery. We did not find, on multivariable analysis, an association between IHR surgical approach and POUR.

Several hypothesized risk factors did not emerge as significant. Systemic opioids did not appear to increase POUR, although correlations have been previously reported.[5,14] While opioids are known to impair detrusor contractility,[21] this is possibly offset by enhanced pain control. A diagnosis of benign prostatic hyperplasia has failed to confirm an association with POUR in some studies,[5] although an association would be expected.[43] In this analysis, we studied only benign prostatic enlargement never surgically treated to remove contamination by patients carrying a benign prostatic hyperplasia diagnosis who had previously undergone transurethral resection of the prostate. We observed a univariable association with POUR, not maintained on multivariable analysis. Benign prostatic enlargement remains challenging to study in this context due to being frequently undiagnosed, being variably recorded at surgical clerking, and covering a wide spectrum of severity,[48] and this apparent lack of association may not be significant.

Figure 2. Receiver Operating Characteristic Curve of the Multivariable Analysis of Risk Factors for Postoperative Urinary Retention (POUR) in Male Patients



Area under the receiver operating characteristic curve, 0.7587.

Both α-blocker and 5α-reductase inhibitor use showed an association with POUR on univariable analysis, although the opposite would be expected from their mechanisms of action. We believe that this association may be confounded by a history of urinary retention or diagnosis of benign prostatic enlargement.

Limitations

We acknowledge a number of limitations to this study. An objectively standardized definition of POUR does not exist, and clinical acumen underpins the diagnosis. In light of this limitation and the desire to capture generalizable data, we applied a pragmatic definition of POUR but acknowledge that catheterization thresholds may differ somewhat among clinicians. The timing of catheter insertion was analyzed in patients catheterized on the first postoperative day who did not void postoperatively. Twenty percent underwent catheter insertion within 4 hours postoperatively. While this interval appears to be short, it is timed from procedure completion, and we should note that these patients may not have voided for a period preoperatively or been catheterized intraoperatively while receiving intravenous fluids, resulting in the development of full bladders in the early postoperative period. Reassuringly, the proportion of patients catheterized within 4 hours did not statistically differ among morning, afternoon, and out-of-hours periods, suggesting that clinical need rather than logistic pressures (eg, day wards approaching closing time) remained the dominant impetus to catheterize.

© 2023 American Medical Association. All rights reserved.

Downloaded From: https://jamanetwork.com/ by a IRCCS Ist. Naz. Studio e Cura Tumori "G. Pascale" User on 10/24/2023

There is no consensus on when to label urinary retention as postoperative. We included urinary retention within 7 days of IHR to capture the potential association of peri- and early postoperative variables with POUR and to identify late-presenting cases. It is possible that cases occurring at the latter end of this period could have alternative precipitants to IHR; however, the majority of cases of POUR were recorded within 2 to 3 days of surgery. Given the uncommon nature of both inguinal hernias and POUR in female patients, low case numbers were recorded, as anticipated. We therefore had inadequate numbers to perform a multivariable analysis on female POUR risk factors. Nonetheless, we recognize the importance of studying and reporting on conditions in all patients in whom they can occur.

Conclusions

The findings of this cohort study indicate that POUR may be a common occurrence following IHR, occurring 1 in 17 male patients, 1 in 11 male patients aged 65 years or older, and 1 in 34 female patients. Awareness of risk factors may help to identify patients at increased risk and to inform risk mitigation strategies.

ARTICLE INFORMATION

Accepted for Publication: March 11, 2023.

Published Online: July 5, 2023. doi:10.1001/jamasurg.2023.2137

Correction: This article was corrected on August 23, 2023, to correct the middle initial in collaborator Mustafa A. Abu Jayyab's name in the Nonauthor Collaborators list in Supplement 2, as well as to add Dr Ali Güner to the list of collaborators.

Author Affiliations: Irish Surgical Research Collaborative, Royal College of Surgeons, Dublin, Ireland (Croghan, Mohan); Department of Colorectal Surgery, Peter MacCallum Cancer Centre, Melbourne, Australia (Mohan); Department of Urology, St Vincent's University Hospital, Dublin, Ireland (Breen, Quinlan); Department of Anaesthesia, Cork University Hospital, Cork, Ireland (McGovern); Data Science Centre, Royal College of Surgeons in Ireland University of Medicine and Health Sciences, Dublin, Ireland (Bennett); Department of Breast Surgery, St Mary's Hospital, London, United Kingdom (Boland); Faculty of Medicine, University of Tripoli (Tripoli University Hospital) Furnaj, Tripoli, Libya (Elhadi); Department of Upper Gastrointestinal and General Surgery, St James's Hospital, Dublin, Ireland (Elliott); Department of General and Colorectal Surgery, University Hospital Limerick, Limerick, Ireland (Fullard, Fleming); Department of Urology, St James's Hospital, Dublin, Ireland (Lonergan); Department of Surgery, Trinity College, Dublin, Ireland (Lonergan); Department of Colorectal Surgery, Royal Devon and Exeter NHS Foundation Trust, Exeter, United Kingdom (McDermott); Government Medical College, Srinagar, India (Mehraj); Department of Surgery, Nicola Giannettasio Hospital, Corigliano-Rossano, Italy (Pata); Department of Pharmacy, Health and Nutritional Sciences, University of Calabria, Rende, Italy (Pata); Department of Colorectal and General Surgery, St Vincent's Hospital, Dublin, Ireland (Winter); Division of Thoracic Surgery, University Health Network, Toronto, Ontario, Canada (Bolger).

Author Contributions: Dr Croghan had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.
Concept and design: Croghan, Mohan, Boland, Elhadi, Elliott, Lonergan, McDermott, Mehraj, Pata, Quinlan, Winter, Bolger, Fleming.
Acquisition, analysis, or interpretation of data: Croghan, Breen, McGovern, Bennett, Elhadi, Elliott, Fullard, Lonergan, Pata, Bolger, Fleming.
Drafting of the manuscript: Croghan, Mohan, Breen, Bennett, Boland, Elhadi, Elliott, McDermott, Mehraj, Pata, Bolger, Fleming.
Critical revision of the manuscript for important intellectual content: Croghan, Mohan, Breen, McGovern, Boland, Elhadi, Fullard, Lonergan, McDermott, Mehraj, Pata, Quinlan, Winter, Bolger, Fleming.
Statistical analysis: Croghan, McGovern, Bennett, Mehraj, Bolger.
Obtained funding: Croghan, Mohan, Fleming.
Administrative, technical, or material support: Croghan, Mohan, Elhadi, Elliott, Fullard, McDermott, Pata.
Supervision: Croghan, Mohan, Breen, Boland, Elliott, Lonergan, Mehraj, Pata, Quinlan, Winter, Bolger, Fleming.

Conflict of Interest Disclosures: Dr Croghan reported receiving nonfinancial support from the Royal College of Surgeons in Ireland during the conduct of the study. No other disclosures were reported.

Funding/Support: This study was supported by grants from the British Association of Day Surgery, British Hernia Society, and European Hernia Society (Dr Croghan).

Role of the Funder/Sponsor: The funders had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

Group Information: A complete list of the members of the Retention of Urine After Inguinal Hernia Elective Repair (RETAINER I) Study Group of the Irish Surgical Research Collaborative appears in Supplement 2.

Data Sharing Statement: See Supplement 3.

Additional Contributions: The authors acknowledge and thank the Royal College of Surgeons in Ireland for study support. The authors also thank the late Prof Dermot Hehir for his invaluable support of RETAINER I and the Irish Surgical Research Collaborative.

REFERENCES

1. HerniaSurge Group. International guidelines for groin hernia management. *Hernia*. 2018;22(1):1-165. doi:10.1007/s10029-017-1668-x

2. Lockhart K, Dunn D, Teo S, et al. Mesh versus non-mesh for inguinal and femoral hernia repair. *Cochrane Database Syst Rev*. 2018;9(9):CD011517. doi:10.1002/14651858.CD011517.pub2

3. Blair AB, Dwarakanath A, Mehta A, et al. Postoperative urinary retention after inguinal hernia repair: a single institution experience. *Hernia*. 2017;21(6):895-900. doi:10.1007/s10029-017-1661-4

4. Hudak KE, Frelich MJ, Rettenmaier CR, et al. Surgery duration predicts urinary retention after inguinal herniorrhaphy: a single institution review. *Surg Endosc*. 2015;29(11):3246-3250. doi:10.1007/s00464-015-4068-2

5. Patel JA, Kaufman AS, Howard RS, Rodriguez CJ, Jessie EM. Risk factors for urinary retention after laparoscopic inguinal hernia repairs. *Surg Endosc*. 2015;29(11):3140-3145. doi:10.1007/s00464-014-4039-z

6. Shaw MK, Pahari H. The role of peri-operative use of alpha-blocker in preventing lower urinary tract symptoms in high risk patients of urinary retention undergoing inguinal hernia repair in males above 50 years. *J Indian Med Assoc*. 2014;112(1):13-14, 16.

7. El-Dhuwaib Y, Corless D, Emmett C, Deakin M, Slavin J. Laparoscopic versus open repair of inguinal hernia: a longitudinal cohort study. *Surg Endosc*. 2013;27(3):936-945. doi:10.1007/s00464-012-2538-3

8. Rafiq MK, Sultan B, Malik MA, Khan K, Abbasi MA. Efficacy of local anaesthesia in repair of inguinal hernia. *J Ayub Med Coll Abbottabad*. 2016;28(4):755-757.

9. Koch CA, Grinberg GG, Farley DR. Incidence and risk factors for urinary retention after endoscopic hernia repair. *Am J Surg*. 2006;191(3):381-385. doi:10.1016/j.amjsurg.2005.10.042

10. Winslow ER, Quasebarth M, Brunt LM. Perioperative outcomes and complications of open vs laparoscopic extraperitoneal inguinal hernia repair in a mature surgical practice. *Surg Endosc*. 2004;18(2):221-227. doi:10.1007/s00464-003-8934-y

11. Vanclooster P, Smet B, de Gheldere C, Segers K. Laparoscopic inguinal hernia repair: review of 6 years experience. *Acta Chir Belg*. 2001;101(3):135-138. doi:10.1080/00015458.2001.12098603

12. Lau H, Lee F. An audit of the early outcomes of ambulatory inguinal hernia repair at a surgical day-care centre. *Hong Kong Med J*. 2000;6(2):218-220.

13. Kim SG, Son J, Lee SR, Jung KU. Laparoscopic repair of inguinal hernias: risk factors for urinary retention and chronic pain after totally extraperitoneal repair and transabdominal preperitoneal repair. *J Minim Invasive Surg*. 2021;24(4):215-222. doi:10.7602/jmis.2021.24.4.215

14. Broderick RC, Li JZ, Blitzer RR, et al. A steady stream of knowledge: decreased urinary retention after implementation of ERAS protocols in ambulatory minimally invasive inguinal hernia repair. *Surg Endosc*. 2022;36(9):6742-6750. doi:10.1007/s00464-021-08950-9

15. Koukoulis GD, Bouliaris K, Perivoliotis K, Tepetes K. Prophylactic administration of alpha blocker for the prevention of urinary retention in males undergoing inguinal hernia repair under

© 2023 American Medical Association. All rights reserved.

Downloaded From: https://jamanetwork.com/ by a IRCCS Ist. Naz. Studio e Cura Tumori "G. Pascale" User on 10/24/2023

spinal anesthesia: interim analysis of a randomized controlled trial. *Cureus*. 2021;13(11):e19669. doi:10.7759/cureus.19669

16. Aleman R, Blanco DG, Funes DR, et al. Does transverse abdominis plane block increase the risk of postoperative urinary retention after inguinal hernia repair? *JSLS*. 2021;25(4):e2021.00015. doi:10.4293/JSLS.2021.00015

17. Di Natale S, Slieker J, Soppe S, Bieri U, Keerl A, Nocito A. Risk factors for postoperative urinary retention after endoscopic hernia repair: age and unilateral operation make the difference. *World J Surg*. 2021;45(12):3616-3622. doi:10.1007/s00268-021-06292-0

18. Ammar AS, Naqi SA, Asghar MS, Khattak S, Jahangir A. Comparison of the outcome of mesh hernioplasty under local anaesthesia in patients with age less than 60 years VS more than 60 years in terms of wound complications and urinary retention. *J Pak Med Assoc*. 2020;70(11):1962-1965.

19. Wei W, Fanous M. Tamsulosin in the prevention of postoperative urinary retention after laparoscopic inguinal hernia repair. *Am Surg*. 2023;89(1):160-161. doi:10.1177/0003134820952428

20. Caparelli ML, Shikhman A, Runyan B, Allamaneni S, Hobler S. The use of tamsulosin to prevent postoperative urinary retention in laparoscopic inguinal hernia repair: a randomized double-blind placebo-controlled study. *Surg Endosc*. 2021;35(10):5538-5545. doi:10.1007/s00464-020-08050-0

21. Baldini G, Bagry H, Aprikian A, Carli F. Postoperative urinary retention: anesthetic and perioperative considerations. *Anesthesiology*. 2009;110(5):1139-1157. doi:10.1097/ALN.0b013e31819f7aea

22. Darrah DM, Griebling TL, Silverstein JH. Postoperative urinary retention. *Anesthesiol Clin*. 2009;27(3):465-484. doi:10.1016/j.anclin.2009.07.010

23. Melzer M, Welch C. Outcomes in UK patients with hospital-acquired bacteraemia and the risk of catheter-associated urinary tract infections. *Postgrad Med J*. 2013;89(1052):329-334. doi:10.1136/postgradmedj-2012-131393

24. Hollingsworth JM, Rogers MA, Krein SL, et al. Determining the noninfectious complications of indwelling urethral catheters: a systematic review and meta-analysis. *Ann Intern Med*. 2013;159(6):401-410. doi:10.7326/0003-4819-159-6-201309170-00006

25. Davis NF, Quinlan MR, Bhatt NR, et al. Incidence, cost, complications and clinical outcomes of iatrogenic urethral catheterization injuries: a prospective multi-institutional study. *J Urol*. 2016;196(5):1473-1477. doi:10.1016/j.juro.2016.05.114

26. Awan FN, Zulkifli MS, McCormack O, et al. Factors involved in unplanned admissions from general surgical day-care in a modern protected facility. *Ir Med J*. 2013;106(5):153-154.

27. Lau H, Brooks DC. Predictive factors for unanticipated admissions after ambulatory laparoscopic cholecystectomy. *Arch Surg*. 2001;136(10):1150-1153. doi:10.1001/archsurg.136.10.1150

28. Grau-Talens EJ, Ibáñez CD, Motos-Micó J, et al. Rives technique for the primary larger inguinal hernia repair: a prospective study of 1000 repairs. *World J Surg*. 2017;41(10):2480-2487. doi:10.1007/s00268-017-4038-z

29. Prakash D, Heskin L, Doherty S, Galvin R. Local anaesthesia versus spinal anaesthesia in inguinal hernia repair: a systematic review and meta-analysis. *Surgeon*. 2017;15(1):47-57. doi:10.1016/j.surge.2016.01.001

30. Clancy C, Coffey JC, O'Riordain MG, Burke JP. A meta-analysis of the efficacy of prophylactic alpha-blockade for the prevention of urinary retention following primary unilateral inguinal hernia repair. *Am J Surg*. 2018;216(2):337-341. doi:10.1016/j.amjsurg.2017.02.017

31. Croghan SM, Fleming CA, Mohan HM, et al; Irish Surgical Research Collaborative. Retention of Urine After Inguinal Hernia Elective Repair (RETAINER study I and II). *Int J Surg Protoc*. 2021;25(1):42-54. doi:10.29337/ijsp.137

32. von Elm E, Altman DG, Egger M, Pocock SJ, Gøtzsche PC, Vandenbroucke JP; STROBE Initiative. The Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) statement: guidelines for reporting observational studies. *Lancet*. 2007;370(9596):1453-1457. doi:10.1016/S0140-6736(07)61602-X

33. Yao MW, Green JSA. How international is the International Prostate Symptom Score? a literature review of validated translations of the IPSS, the most widely used self-administered patient questionnaire for male lower urinary tract symptoms. *Low Urin Tract Symptoms*. 2022;14(2):92-101. doi:10.1111/luts.12415

34. Barry MJ, Fowler FJ Jr, O'Leary MP, et al; The Measurement Committee of the American Urological Association. The American Urological Association symptom index for benign prostatic hyperplasia. *J Urol*. 1992;148(5):1549-1557. doi:10.1016/S0022-5347(17)36966-5

35. RETAINER Collaborative Group; Irish Surgical Research Collaborative. International snapshot study exploring the impact of COVID-19 on elective inguinal hernia repair. *Br J Surg*. 2021;108(9):e301-e1173. doi:10.1093/bjs/znab198

36. World Bank country and lending groups. The World Bank; 2021. Accessed May 25, 2023. https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups

37. Petros JG, Rimm EB, Robillard RJ, Argy O. Factors influencing postoperative urinary retention in patients undergoing elective inguinal herniorrhaphy. *Am J Surg*. 1991;161(4):431-433. doi:10.1016/0002-9610(91)91105-R

38. Gönüllü NN, Gönüllü M, Utkan NZ, Dülger M, Gökgöz S, Karsli B. Postoperative retention of urine in general surgical patients. *Eur J Surg*. 1993;159(3):145-147.

39. Drissi F, Gillion JF, Roquilly A, Luyckx F, Duchalais E; Club Hernie. Nationwide analysis of urinary retention following inguinal hernia repair: results from the National Prospective Hernia Registry. *World J Surg*. 2020;44(8):2638-2646. doi:10.1007/s00268-020-05538-7

40. Crain N, Tejirian T. Impact of intraoperative Foley catheters on postoperative urinary retention after inguinal hernia surgery. *Am Surg*. 2019;85(10):1099-1103. doi:10.1177/000313481908501005

41. Lepor H. Managing and preventing acute urinary retention. *Rev Urol*. 2005;7(suppl 8):S26-S33.

42. Roehrborn CG, Siami P, Barkin J, et al; CombAT Study Group. The influence of baseline parameters on changes in international prostate symptom score with dutasteride, tamsulosin, and combination therapy among men with symptomatic benign prostatic hyperplasia and an enlarged prostate: 2-year data from the CombAT study. *Eur Urol*. 2009;55(2):461-471. doi:10.1016/j.eururo.2008.10.037

43. Choong S, Emberton M. Acute urinary retention. *BJU Int*. 2000;85(2):186-201. doi:10.1046/j.1464-410x.2000.00409.x

44. Thomas K, Chow K, Kirby RS. Acute urinary retention: a review of the aetiology and management. *Prostate Cancer Prostatic Dis*. 2004;7(1):32-37. doi:10.1038/sj.pcan.4500700

45. Fafaj A, Lo Menzo E, Alaedeen D, et al. Effect of intraoperative urinary catheter use on postoperative urinary retention after laparoscopic inguinal hernia repair: a randomized clinical trial. *JAMA Surg*. 2022;157(8):667-674. doi:10.1001/jamasurg.2022.2205

46. Olsen JHH, Öberg S, Andresen K, Klausen TW, Rosenberg J. Network meta-analysis of urinary retention and mortality after Lichtenstein repair of inguinal hernia under local, regional or general anaesthesia. *Br J Surg*. 2020;107(2):e91-e101. doi:10.1002/bjs.11308

47. Huerta S, Timmerman C, Argo M, et al. Open, laparoscopic, and robotic inguinal hernia repair: outcomes and predictors of complications. *J Surg Res*. 2019;241:119-127. doi:10.1016/j.jss.2019.03.046

48. McConnell JD, Roehrborn CG, Bautista OM, et al; Medical Therapy of Prostatic Symptoms (MTOPS) Research Group. The long-term effect of doxazosin, finasteride, and combination therapy on the clinical progression of benign prostatic hyperplasia. *N Engl J Med*. 2003;349(25):2387-2398. doi:10.1056/NEJMoa030656

© 2023 American Medical Association. All rights reserved.

Downloaded From: https://jamanetwork.com/ by a IRCCS Ist. Naz. Studio e Cura Tumori "G. Pascale" User on 10/24/2023

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***Group Name(s): RETAINER 1 Study Group of the Irish Surgical Research Collaborative (ISRC)**								
***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Pablo Alberto	Farinelli		0000-0001-8135-5767	Servicio de Cirugía General y Trasplante Multiorgánico, Hospital Universitario Fundación Favaloro	Buenos Aires, Argentina	Site lead and collaborator		
Maria Jimena	Alaniz Alday		0000-0003-2884-6254	Servicio de Cirugía General y Trasplante Multiorgánico, Hospital Universitario Fundación Favaloro	Buenos Aires, Argentina	Collaborator		
Nicolás L.	Avellaneda		0000-0002-6802-7125	Buenos Aires Cemic (Centro de investigaciones médicas Norberto Quirno)	Buenos Aires, Argentina	Regional lead (Latin America), National/state lead (Argentina) and site lead	Regional/National Lead Subgroup	
María M.	Goya		0000-0003-4597-1698	Buenos Aires Cemic (Centro de investigaciones médicas Norberto Quirno)	Buenos Aires, Argentina	Collaborator		
Gastón A.	Clementé		0000-0002-2336-6836	Buenos Aires Cemic (Centro de investigaciones médicas Norberto Quirno)	Buenos Aires, Argentina	Collaborator		
Juan Cruz	Lopez			Austral University Hospital	Buenos Aires, Argentina	Site lead and collaborator		
David	Proud		0000-0003-3561-0725	Colorectal Surgery , Austin Health	Heidelberg, Victoria, Australia	Site lead and collaborator		
Natassia	Shulman		0000-0003-3648-728x	Colorectal Surgery , Austin Health	Heidelberg, Victoria, Australia	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Dora	Huang		0000-0002-8534-4237	Colorectal Surgery , Austin Health	Heidelberg, Victoria, Australia	Collaborator		
Wael	Jamel		0000-0003-0117-0071	Colorectal Surgery , Austin Health	Heidelberg, Victoria, Australia	Collaborator		
Sonia	Gill		0000-0003-4847-7337	Colorectal Surgery , Austin Health	Heidelberg, Victoria, Australia	Collaborator		
Thomas	Arthur		0000-0003-0177-8335	Department of General Surgery, Gold Coast University Hospital	Southport, Queensland, Australia	Collaborator		
Daisy	Swindon		0000-0002-0708-8215	Department of General Surgery, Gold Coast University Hospital	Southport, Queensland, Australia	Collaborator		
Amy	Frank		0000-0002-6808-906X	Department of General Surgery, Robina Hospital	Robina, Queensland, Australia	Collaborator		
Roy	Teng		0000-0003-1197-3249	Department of General Surgery, Robina Hospital	Robina, Queensland, Australia	Site lead and collaborator		
Irene	Chua		0000-0001-8211-4367	Department of General Surgery, St John of God Subiaco Hospital	Subiaco, Western Australia, Australia	Site lead and collaborator		
Nicole	Chong			Department of General Surgery, St John of God Subiaco Hospital	Subiaco, Western Australia, Australia	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Amy	Hannigan			Department of General Surgery, St John of God Subiaco Hospital	Subiaco, Western Australia, Australia	Collaborator		
Madhu	Srinivasan		0000-0002-4701-1589	Department of General Surgery, King Hamad University Hospital, and Royal College of Surgeons Ireland	Busaiteen, Kingdom of Bahrain	National/state lead (Bahrain) and site lead	Regional/National Lead Subgroup	
Aysha	Al Bastaki		0000-0002-6613-6088	Department of General Surgery, King Hamad University Hospital	Busaiteen, Kingdom of Bahrain	Collaborator		
Sharifa	Ahmad		0000-0002-5130-2709	Department of General Surgery, King Hamad University Hospital	Busaiteen, Kingdom of Bahrain	Collaborator		
Isam	Juma		0000-0003-4470-677X	Department of General Surgery, King Hamad University Hospital	Busaiteen, Kingdom of Bahrain	Collaborator		
Wah	Yang		0000-0003-2341-3310	Department of Gastrointestinal Surgery, The First Affiliated Hospital of Jinan University	Guangzhou, China	National/state lead (China)	Regional/National Lead Subgroup	
Huaxi	Wang		0000-0002-9981-7066	Department of Gastrointestinal Surgery, The First Affiliated Hospital of Jinan University	Guangzhou, China	Site lead		
Shuwen	Jiang		0000-0003-2968-295X	Department of Gastrointestinal Surgery, The First Affiliated Hospital of Jinan University	Guangzhou, China	Collaborator		
Eddy P	Lincango Naranjo		0000-0003-4668-7429	General Surgery Department, Hospital Vozandes Quito	Quito, Ecuador	National/state lead (Ecuador) and site lead	Regional/National Lead Subgroup	

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Carla M	Dominguez		0000-0001-8667-6498	General Surgery Department, Hospital Vozandes Quito	Quito, Ecuador	Collaborator		
Luis F	Huilca		0000-0002-8549-2117	General Surgery Department, Hospital Vozandes Quito	Quito, Ecuador	Collaborator		
Jose R	Negrete Ocampo		0000-0002-9453-1667	General Surgery Department, Hospital Vozandes Quito	Quito, Ecuador	Collaborator		
Ahmed	Nafea		0000-0002-3276-3964	Royal Liverpool University Hopsital and Alexandria University Faculty of Medicine	Liverpool, UK and Alexandria, Egypt	Regional lead (MENA) and National/state lead (Egypt)	Regional/National Lead Subgroup	
Ahmed K.	Awad		0000-0001-6647-1866	Faculty of Medicine, Ain-Shams University	Cairo, Egypt	Site lead and collaborator		
Merihan A.	Elbadawy		0000-0002-7923-9131	Faculty of Medicine, Ain-Shams University	Cairo, Egypt	Collaborator		
Aya Abdulilah	Abdulmonem		0000-0002-4661-9277	Faculty of Medicine, Ain-Shams University	Cairo, Egypt	Collaborator		
Mahmoud Shaban	Abdelgalil		0000-0002-7325-0129	Faculty of Medicine, Ain-Shams University	Cairo, Egypt	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Salma Tarek	Helmy		0000-0002-0176-4585	Faculty of Medicine, Ain-Shams University	Cairo, Egypt	Collaborator		
Sally Ahmed	Abd El-razik		0000-0002-5653-9529	Faculty of Medicine, Ain-Shams University	Cairo, Egypt	Collaborator		
Laila Raafat	Mabrouk		0000-0001-9085-0532	Faculty of Medicine, Ain-Shams University	Cairo, Egypt	Collaborator		
Ahmed Hassan	A.Rady		0000-0003-2306-5264	Faculty of Medicine, Ain-Shams University	Cairo, Egypt	Collaborator		
Ahmed	Shaheen		0000-0001-9731-5065	Alexandria Faculty of Medicine	Alexandria, Egypt	Site lead and collaborator		
Moataz	Ewedah		0000-0003-0978-4449	Alexandria Faculty of Medicine	Alexandria, Egypt	Collaborator		
Marina	Farag		0000-0002-3707-0630	Alexandria Faculty of Medicine	Alexandria, Egypt	Collaborator		
Yousef	Tanas		0000-0001-5189-2027	Alexandria Faculty of Medicine	Alexandria, Egypt	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Yomna	Dean		0000-0001-6907-0339	Alexandria Faculty of Medicine	Alexandria, Egypt	Collaborator		
Maha	Ghanem		0000000288372399	Alexandria Faculty of Medicine	Alexandria, Egypt	Collaborator		
Amir F.	Asla		0000-0002-1969-8926	General surgery Department, Al Mabarah Insurance Hospital	Zagazig, Egypt	Site lead and collaborator		
Ahmed M.	Ghatwary		0000-0002-6300-7192	General surgery Department, Al Mabarah Insurance Hospital	Zagazig, Egypt	Collaborator		
Menan A.	Elsadek		0000-0001-6141-108X	Alzahraa University Hospital	Cairo, Egypt	Collaborator		
Aalaa	Saad			Alzahraa University Hospital	Cairo, Egypt	Site lead and collaborator		
Ramy A.	Hassan		0000-0001-9135-6819	Department of Surgery, Assiut University Hospital	Assiut, Egypt	Collaborator		
Mohamed O.	Herdan		0000-0002-5403-7779	Department of Surgery, Assiut University Hospital	Assiut, Egypt	Site lead and collaborator		
Mahmoud A.	Nassar		0000-0001-5759-9104	Department of Surgery, Assiut University Hospital	Assiut, Egypt	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Sherif	Alaa		0000-0002-7182-1944	Department of Surgery, Assiut University Hospital	Assiut, Egypt	Collaborator		
Areej A.	Khamis		0000-0003-2941-1244	Department of Surgery, Assiut University Hospital	Assiut, Egypt	Collaborator		
Hadeer M.S.	Youssef		0000-0002-9145-4643	Department of Surgery, Assiut University Hospital	Assiut, Egypt	Collaborator		
Mohamed A.	El Sherpiny		0000-0001-6214-9917	General Surgery Department, Benha University Hospitals	Benha City, Egypt	Site lead and collaborator		
Eslam S.A.M.	Shehata		0000-0003-3527-8494	General Surgery Department, Benha University Hospitals	Benha City, Egypt	Collaborator		
Sandy A.	Taha			General Surgery Department, Benha University Hospitals	Benha City, Egypt	Collaborator		
Ahmed A.A.A	Zahran		0000-0001-9682-1281	General Surgery Department, Damietta Cardiac and gastrointestinal Specialized Center	Damietta, Egypt	Site lead and collaborator		
Mohamed	Al-Nagdy		0000-0002-0927-8071	General Surgery Department, Damietta Cardiac and gastrointestinal Specialized Center	Damietta, Egypt	Collaborator		
Somaya Z.E	Sayed Hafez		0000-0002-5424-1817	Faculty of Medicine , Minia University Hospitals	Minya, Egypt	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Shymaa M.	Abo Ghanima		0000-0002-0309-7288	Faculty of Medicine , Minia University Hospitals	Minya, Egypt	Collaborator		
Sherif	Farahat		0000-0003-1915-9399	General Surgery Department, Kafrelsheikh University Hospital, Elgish Street, Kafrelsheikh City.	Kafrelsheikh City, Egypt	Site lead and collaborator		
Fatma M.	Morgan		0000-0002-7713-1469	General Surgery Department, Kafrelsheikh University Hospital, Elgish Street, Kafrelsheikh City.	Kafrelsheikh City, Egypt	Collaborator		
Shaimaa M.	Mahfouz		0000-0001-6843-2940	General Surgery Department, Kafrelsheikh University Hospital, Elgish Street, Kafrelsheikh City.	Kafrelsheikh City, Egypt	Collaborator		
Hossam	Elfeki		0000-0003-0704-4068	Department of Surgery, Mansoura University Hospital	Mansoura, Egypt	Site lead and collaborator		
Hosam	Elghadban		0000-0003-3076-301X	Department of Surgery, Mansoura University Hospital	Mansoura, Egypt	Collaborator		
Mostafa	Shalaby		0000-0002-0358-2398	Department of Surgery, Mansoura University Hospital	Mansoura, Egypt	Collaborator		
Mohamed	Shetiwy		0000-0003-0484-6460	Department of Surgery, Mansoura University Hospital	Mansoura, Egypt	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Mohamed	Mostafa		0000-0003-0793-1580	Department of Surgery, Mansoura University Hospital	Mansoura, Egypt	Collaborator		
Ahmad	Sakr		0000-0003-0292-9086	Department of Surgery, Mansoura University Hospital	Mansoura, Egypt	Collaborator		
Ahmed	Elsayed		0000-0002-7658-0596	Department of Surgery, Mansoura University Hospital	Mansoura, Egypt	Collaborator		
Kareem	Sadek		0000-0003-3308-5250	Department of Surgery, Mansoura University Hospital	Mansoura, Egypt	Collaborator		
Maher	Eldeghedi		0000-0002-8504-7806	Department of Surgery, Mansoura University Hospital	Mansoura, Egypt	Collaborator		
Mohamed	Nader		0000-0002-1399-5145	Department of Surgery, Mansoura University Hospital	Mansoura, Egypt	Collaborator		
Reem	Elsaadany		0000-0002-0982-5477	Department of Surgery, Mansoura University Hospital	Mansoura, Egypt	Collaborator		
Yousef	Hesham		0000-0002-3303-7737	Department of Surgery, Mansoura University Hospital	Mansoura, Egypt	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Omar	Attiya		0000-0003-4364-5995	Department of Surgery, Mansoura University Hospital	Mansoura, Egypt	Collaborator		
Abdelrahman	Shaaban		0000-0002-0424-2686	Department of Surgery, Mansoura University Hospital	Mansoura, Egypt	Collaborator		
Yara	Sakr		0000-0002-2838-0768	Department of Surgery, Mansoura University Hospital	Mansoura, Egypt	Collaborator		
Mohammed	Alharazin		0000-0003-4534-1901	Department of Surgery, Mansoura University Hospital	Mansoura, Egypt	Collaborator		
Mohammed A.	Omar		0000-0002-2736-8097	General Surgery Department, Qena University Hospitals / South Valley University	Qena, Egypt	Site lead and collaborator		
Marwa N.	Alansary		0000-0002-5650-0376	General Surgery Department, Qena University Hospitals / South Valley University	Qena, Egypt	Collaborator		
Mahmoud A.	Ebada		0000-0001-5284-2929	Al-Taisier International Hospital	Zagazig, Egypt	Collaborator		
Mohamed S.	Abdelfattah		0000-0002-4124-2968	Al-Taisier International Hospital	Zagazig, Egypt	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Ahmed K.	El-Taher		0000-0003-2260-7471	Al-Taisier International Hospital	Zagazig, Egypt	Site lead and collaborator		
Hazem S.	Ghaith		0000-0002-9519-851X	Al-Taisier International Hospital	Zagazig, Egypt	Collaborator		
Ibrahim A.	Abdelhaleem		0000-0002-5047-9545	Zagazig University Hospitals	Zagazig, Egypt	Site lead and collaborator		
Notaila M.	Fayed		0000-0002-8777-7044	Zagazig University Hospitals	Zagazig, Egypt	Collaborator		
Laila	Fayed		0000-0003-2094-0617	Zagazig University Hospitals	Zagazig, Egypt	Collaborator		
Mohamed K.	Mahmoud		0000-0003-4601-892X	Zagazig University Hospitals	Zagazig, Egypt	Collaborator		
Esraa E.	Mohamed		0000-0001-6722-4365	Zagazig University Hospitals	Zagazig, Egypt	Collaborator		
Amr M.	El-Deeb		0000-0002-1360-3711	Zagazig University Hospitals	Zagazig, Egypt	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Islam M.	Mohamed		0000-0002-1646-0808	General Surgery Department, Al-Azhar University Hospitals	Cairo, Egypt	Site lead and collaborator		
Abd Elrahman S.	El kady		0000-0002-5020-0604	General Surgery Department, Al-Azhar University Hospitals	Cairo, Egypt	Collaborator		
Mohammed	Abd Al-Fattah		0000-0001-5171-1900	General Surgery Department, Al-Azhar University Hospitals	Cairo, Egypt	Collaborator		
Mohamad	Hassaan			General Surgery Department, Al-Azhar University Hospitals	Cairo, Egypt	Collaborator		
Mohammed G.	Hegazy		0000-0003-2982-9616	General Surgery Department, Al Mabarah Insurance Hospital	Zagazig, Egypt	Collaborator		
Amir Fathi	Asla			General Surgery Department, Al Mabarah Insurance Hospital	Zagazig, Egypt	Site lead and collaborator		
Evangelos	Fradelos		0000-0002-0143-8691	Surgical Oncology Department, Agios Savvas Anticancer Hospital	Athens, Greece	Site lead and collaborator		
Dimitrios	Korkolis		0000-0003-0682-2374	Surgical Oncology Department, Agios Savvas Anticancer Hospital	Athens, Greece	Collaborator		
George	Kavalieratos		0000-0002-7572-5263	Surgical Oncology Department, Agios Savvas Anticancer Hospital	Athens, Greece	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Dimitrios K.	Manatakis		0000-0002-1263-8488	Department of Surgery, Athens Naval and Veterans Hospital	Athens, Greece	National lead (Greece) and site lead	Regional/National Lead Subgroup	
Nikolaos	Tasis		0000-0002-8523-6316	Department of Surgery, Athens Naval and Veterans Hospital	Athens, Greece	Collaborator		
Argyrios	Ioannidis		0000-0003-0230-5302	Department of General, Laparoscopic, Oncologic and Robotic Surgery, Athens Medical Center	Athens, Greece	Site lead and collaborator		
Michael	Konstantinidis		0000-0002-3624-5371	Department of General, Laparoscopic, Oncologic and Robotic Surgery, Athens Medical Center	Athens, Greece	Collaborator		
Sofia	Konstantinidou		0000-0002-6088-3832	Department of Clinical Pharmacy, Athens Medical Center	Athens, Greece	Collaborator		
Georgios	Koukoulis		0000-0002-6958-6447	Department of General Surgery, Koutlimpaneio and Triantafylleio General Hospital of Larissa	Larissa, Greece	Site lead and collaborator		
Christos	Kalfountzos		0000-0003-1036-2331	Department of General Surgery, Koutlimpaneio and Triantafylleio General Hospital of Larissa	Larissa, Greece	Collaborator		
Konstantinos	Bouliaris		0000-0001-8403-8177	Department of General Surgery, Koutlimpaneio and Triantafylleio General Hospital of Larissa	Larissa, Greece	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Dimitrios	Schizas		0000-0002-7046-0112	1st Department of Surgery, Laiko General Hospital of Athens	Athens, Greece	Collaborator		
Nikolaos	Machairas		0000-0003-3239-3905	2nd Department of Propaedeutic Surgery, Laiko General Hospital of Athens	Athens, Greece	Site lead and collaborator		
Stylianos	Kykalos		0000-0002-8687-685X	2nd Department of Propaedeutic Surgery, Laiko General Hospital of Athens	Athens, Greece	Collaborator		
Michail	Vailas		0000-0002-7357-6532	1st Department of Surgery, Laiko General Hospital of Athens	Athens, Greece	Collaborator		
Athanasios	Syllaios		0000-0002-5053-0953	1st Department of Surgery, Laiko General Hospital of Athens	Athens, Greece	Collaborator		
Panagiotis	Dorovinis		0000-0002-4861-8753	2nd Department of Propaedeutic Surgery, Laiko General Hospital of Athens	Athens, Greece	Collaborator		
Alexandros	Kozadinos		0000-0002-9464-8400	1st Department of Surgery, Laiko General Hospital of Athens	Athens, Greece	Collaborator		
Konstantinos	Bouchagier		0000-0002-3291-3619	Surgical Department , University Hospital of Patras	Rio, Greece	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Francesk	Mulita		0000-0001-7198-2628	Surgical Department , University Hospital of Patras	Rio, Greece	Collaborator		
Georgios	Skroubis		0000-0003-2392-2078	Surgical Department , University Hospital of Patras	Rio, Greece	Collaborator		
Ioannis	Maroulis		0000-0002-6221-6099	Surgical Department , University Hospital of Patras	Rio, Greece	Collaborator		
Grigorios	Chatzimavroudis		0000-0002-3991-9335	2nd Department of General Surgery, Aristotle University of Thessaloniki, G.Gennimatas General Hospital	Thessaloniki, Greece	Site lead and collaborator		
Georgia	Kotoreni		0000-0002-7328-2315	2nd Department of General Surgery, Aristotle University of Thessaloniki, G.Gennimatas General Hospital	Thessaloniki, Greece	Collaborator		
Petros	Sountoulides		0000-0003-2671-571X	1st Department of Urology, Aristotle University of Thessaloniki, G.Gennimatas General Hospital	Thessaloniki, Greece	Site lead and collaborator		
Christos	Agalianos		0000-0002-5302-9304	Department of Surgery, Cretan Naval and Veterans Hospital	Chania, Crete, Greece	Site lead and collaborator		
Maria Ioanna	Antonopoulou		0000-0001-9830-5790	Department of Surgery, Cretan Naval and Veterans Hospital	Chania, Crete, Greece	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Aristeidis	Ladoukakis		0000-0003-4218-6942	Department of Surgery, Cretan Naval and Veterans Hospital	Chania, Crete, Greece	Collaborator		
Taxiarchis K.	Nikolouzakis		0000-0002-9884-1232	Department of General Surgery, University Hospital of Heraklion	Heraklion, Crete, Greece	Site lead and collaborator		
Konstantinos	Lasithiotakis		0000-0002-6538-0951	Department of General Surgery, University Hospital of Heraklion	Heraklion, Crete, Greece	Collaborator		
Emmanuel	Chrysos		0000-0003-0875-9807	Department of General Surgery, University Hospital of Heraklion	Heraklion, Crete, Greece	Collaborator		
Sofia	Xenaki		0000-0002-1394-4276	Department of General Surgery, University Hospital of Heraklion	Heraklion, Crete, Greece	Site lead and collaborator		
Efstratia	Baili		0000-0001-8745-2269	2nd Department of Surgery, IASO Clinic	Athens, Greece	Site lead and collaborator		
Theodore	Liakakos		0000-0003-2289-6242	3rd Department of Surgery, IASO Clinic	Athens, Greece	Collaborator		
Alexandros	Charalabopoulos		0000-0003-1835-4723	4th Department of Surgery, IASO Clinic	Athens, Greece	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Maytham A.	Al-Juaifari		0000-0002-8106-9354	General Surgery Department, Al-Hakim General Hospital	Najaf, Iraq	Site lead and collaborator		
Yasir A.	Zwain		0000-0001-8383-4067	General Surgery Department, Al-Hakim General Hospital	Najaf, Iraq	Collaborator		
Ahmed A.	Himi		0000-0003-2678-378X	Department of General Surgery, Ibn Sina Hospital	Baghdad, Iraq	National lead (Iraq) and site lead	Regional/National Lead Subgroup	
Hogir I.R.	Aldawoody		0000-0002-9831-6112	Surgery Department, Khanaqeen General Hospital	Khanaqin, Iraq	Site lead and collaborator		
Ishwarya	Balasubramanian		0000-0002-3864-5651	Department of Surgery, Beaumont Hospital	Dublin, Ireland	Collaborator		
Arnold D.K.	Hill		0000-0001-9617-7983	Department of Surgery, Beaumont Hospital	Dublin, Ireland	Collaborator		
William B.	Robb		0000-0001-7005-1709	Department of Surgery, Beaumont Hospital	Dublin, Ireland	Collaborator		
Martin Safari	Aketch		0000-0001-6126-0584	Department of Surgery, Beaumont Hospital	Dublin, Ireland	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Aaron M.J.	Brady		0000-0003-2580-2272	Department of Surgery, Bon Secours Hospital	Cork, Ireland	Collaborator		
Peter D.	O' Leary		0000-0003-3701-4249	Department of Surgery, Bon Secours Hospital	Cork, Ireland	Site lead and collaborator		
Jessie A.	Elliott		0000-0003-4673-0386	Department of Surgery, Tallaght University Hospital	Dublin, Ireland	Site lead and collaborator	Trial Management and Writing Subgroups	
Niall F.	Davis		0000-0002-5298-1475	Department of Urology, Beaumont Hospital	Dublin, Ireland	Collaborator		
Ben	Creavin		0000-0001-8209-4810	Department of Surgery, Tallaght University Hospital	Dublin, Ireland	Collaborator		
Paul F.	Ridgway		0000-0002-8500-8532	Department of Surgery, Tallaght University Hospital	Dublin, Ireland	Collaborator		
Kevin	Barry		0000-0002-2956-6302	Department of General Surgery, Mayo University Hospital	Castlebar, Ireland	Collaborator		
Orlaith	Kelly		0000-0002-9123-7024	Department of General Surgery, Mayo University Hospital, Castlebar, Co. Mayo	Castlebar, Ireland	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Nicola	Raftery		0000-0002-4684-5573	Department of General Surgery, Mayo University Hospital, Castlebar, Co. Mayo	Castlebar, Ireland	Collaborator		
Matthew G.	Davey		0000-0002-9892-9920	Department of Surgery, Galway Clinic	Galway, Ireland	Site lead and collaborator		
Ray P.	McLaughlin		0000-0002-8619-9000	Department of Surgery, Galway Clinic	Galway, Ireland	Collaborator		
William P.	Joyce		0000-0002-3782-1641	Department of Surgery, Galway Clinic	Galway, Ireland	Collaborator		
Aengus	Meldon		0000000319332817	Department of Surgery, Galway Clinic	Galway, Ireland	Collaborator		
Anna	Fullard		0000-0002-8975-6706	Department of Surgery, University Hospital Galway	Galway, Ireland	Site lead and collaborator	Trial Management and Writing Subgroups	
Emmeline	Nugent		0000-0003-0117-6780	Department of Surgery, University Hospital Galway	Galway, Ireland	Collaborator		
Amenah	Dhannoon		0000-0002-5971-074X	Department of Surgery, University Hospital Galway	Galway, Ireland	Collaborator		
Paul	Carroll		0000-0002-6834-1093	Department of Surgery, University Hospital Galway	Galway, Ireland	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Stephen J.	O'Brien		0000-0003-2686-0300	Department of Surgery, Cork University Hospital	Cork, Ireland	Site lead and collaborator		
Emmet	Andrews		0000-0001-8810-1524	Department of Surgery, Cork University Hospital	Cork, Ireland	Collaborator		
Niamh M.	Foley		0000-0003-3088-8605	Department of Surgery, Cork University Hospital	Cork, Ireland	Collaborator		
Shane	Killeen		0000-0002-3572-7360	Department of Surgery, Cork University Hospital	Cork, Ireland	Collaborator		
Daniel	Hechtl		0000-0003-3022-2475	Department of Surgery, Cork University Hospital	Cork, Ireland	Collaborator		
Michael	O'Riordain		0000-0003-4567-0158	Department of Surgery, Mercy University Hospital	Cork, Ireland	Collaborator		
John B.	Conneely		0000-0001-6352-9444	Department of General, Hepatobiliary, Foregut and Bariatric Surgery, Mater Misericordiae University Hospital	Dublin, Ireland	Collaborator		
Niall P.	Hardy		0000-0002-7036-3910	Department of General, Hepatobiliary, Foregut and Bariatric Surgery, Mater Misericordiae University Hospital	Dublin, Ireland	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Niall J.	McInerney		0000-0003-4051-3882	Department of General, Hepatobiliary, Foregut and Bariatric Surgery, Mater Misericordiae University Hospital	Dublin, Ireland	Collaborator		
Emma C.	Kearns		0000-0001-8464-4329	Department of General, Hepatobiliary, Foregut and Bariatric Surgery, Mater Misericordiae University Hospital	Dublin, Ireland	Collaborator		
Ben	Shanahan		0000-0001-6890-5007	Department of General, Hepatobiliary, Foregut and Bariatric Surgery, Mater Misericordiae University Hospital	Dublin, Ireland	Collaborator		
Czara	Kennedy			Department of Surgery, Midwest Regional Hospital Mullingar	Mullingar, Ireland	Site lead and collaborator		
Desmond	Toomey			Department of Surgery, Midwest Regional Hospital Mullingar	Mullingar, Ireland	Collaborator		
Shabhaz	Mansoor			Department of Surgery, Midwest Regional Hospital Mullingar	Mullingar, Ireland	Collaborator		
Eanna	Ryan		0000-0003-2609-0836	Department of Surgery, Midwest Regional Hospital Tullamore	Tullamore, Ireland	Site lead and collaborator		
Sean M.	Johnston		0000-0001-9445-9645	Department of Surgery, Midwest Regional Hospital Tullamore	Tullamore, Ireland	Collaborator		
Sean T.	Lim		0000-0002-8448-7121	Department of Surgery, Midwest Regional Hospital Tullamore	Tullamore, Ireland	Collaborator		
Irele Ifijeh	Ahonkhai		0000-0002-9572-1235	Department of Surgery, Midwest Regional Hospital Tullamore	Tullamore, Ireland	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Eltahir	Eltagani		0000-0001-6627-8804	Department of Surgery, Midwest Regional Hospital Tullamore	Tullamore, Ireland	Collaborator		
Odhran K.	Ryan		0000-0003-2750-4607	Department of Surgery, Midwest Regional Hospital Tullamore	Tullamore, Ireland	Collaborator		
Helen	Earley			Department of Surgery, Portiuncula Hospital	Ballinasloe, Ireland	Site lead and collaborator		
Joseph	Garvin			Department of Surgery, Portiuncula Hospital	Ballinasloe, Ireland	Collaborator		
Andru Nitharasan	Iruthayanathar			Department of Surgery, Portiuncula Hospital	Ballinasloe, Ireland	Collaborator		
Cillian	Clancy			Department of General and Colorectal Surgery, St. James's Hospital	Dublin, Ireland	Collaborator		
Brian	Fahey			Department of General and Colorectal Surgery, St. James's Hospital	Dublin, Ireland	Collaborator		
Haroon	Rashid			Department of General and Colorectal Surgery, St. James's Hospital	Dublin, Ireland	Collaborator		
Paul	McCormick			Department of General and Colorectal Surgery, St. James's Hospital	Dublin, Ireland	Collaborator		
Ian S.	Reynolds		0000-0002-8790-2538	Department of General Surgery, St. Michael's Hospital	Dublin, Ireland	Site lead and collaborator		
Darragh	Garrahy		0000-0002-4895-4909	Department of General Surgery, St. Michael's Hospital	Dublin, Ireland	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Orlagh	Bean		0000-0003-3422-7505	Department of General Surgery, St. Michael's Hospital	Dublin, Ireland	Collaborator		
Eoin	Conlon		0000-0001-9581-0329	Department of General Surgery, St. Michael's Hospital	Dublin, Ireland	Collaborator		
Des C.	Winter		0000-0002-9559-6438	Department of General Surgery, St. Michael's Hospital	Dublin, Ireland	Collaborator	Trial Management and Writing Subgroups	
Emily	Molony		0000-0003-3296-8641	Department of General Surgery, St. Michael's Hospital	Dublin, Ireland	Collaborator		
Sean T.	Martin		0000-0002-6351-8857	Department of General Surgery, St. Michael's Hospital	Dublin, Ireland	Collaborator		
Emir	Hoti		0000-0003-3799-8866	Department of General Surgery, St. Michael's Hospital	Dublin, Ireland	Collaborator		
Anthony T.	Stafford		0000-0001-6251-6262	Department of General Surgery, St. Michael's Hospital	Dublin, Ireland	Collaborator		
Ann	Hanly		0000-0002-5843-1116	Department of General Surgery, St. Michael's Hospital	Dublin, Ireland	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Donal	Maguire		0000-0001-6584-8502	Department of General Surgery, St. Michael's Hospital	Dublin, Ireland	Collaborator		
Kin Cheung	Ng		0000-0002-7242-2128	Department of Surgery, St. Columcille Hospital	Dublin, Ireland	Site lead and collaborator		
Benjamin Ngie Xiong	Wong		0000-0003-4298-2981	Department of General Surgery, University Hospital Kerry	Tralee, Ireland	Site lead and collaborator		
Tom	McCormack			Department of General Surgery, University Hospital Kerry	Tralee, Ireland	Collaborator		
Kin Yik	Chan		0000-0002-7242-2128	Department of Surgery, University Hospital Limerick	Limerick, Ireland	Site lead and collaborator		
Colin	Peirce			Department of Surgery, University Hospital Limerick	Limerick, Ireland	Collaborator		
Calvin	Coffey			Department of Surgery, University Hospital Limerick	Limerick, Ireland	Collaborator		
Nauman	Nabi			Department of Urology, University Hospital Limerick	Limerick, Ireland	Collaborator		
Prem Thomas	Jacob			Department of Urology, University Hospital Limerick	Limerick, Ireland	Collaborator		
Patrick	Dillon			Department of Anaesthesia, University Hospital Limerick	Limerick, Ireland	Collaborator		
Abrar	Ahmad		0000-0002-7871-8587	Department of Academic Surgery, University Hospital Waterford	Waterford, Ireland	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Peter	Neary		0000-0002-9319-286X	Department of Academic Surgery, University Hospital Waterford	Waterford, Ireland	Collaborator		
Jessica M.	Ryan		0000-0001-6161-9630	Department of Academic Surgery, University Hospital Waterford	Waterford, Ireland	Site lead and collaborator		
Ben	Creavin		0000-0001-8209-4810	Department of Academic Surgery, University Hospital Waterford	Waterford, Ireland	Collaborator		
Tara M.	Connelly		0000-0002-3178-7091	Department of Academic Surgery, University Hospital Waterford	Waterford, Ireland	Collaborator		
Fiachra	Cooke		0000-0001-9289-4221	Department of Academic Surgery, University Hospital Waterford	Waterford, Ireland	Collaborator		
Peter W.	McCullough		0000-0003-2885-9223	Department of Academic Surgery, University Hospital Waterford	Waterford, Ireland	Collaborator		
Gianluca	Pellino		0000-0002-8322-6421	Department of Advanced Medical and Surgical Sciences, Università degli Studi della Campania "Luigi Vanvitelli"	Naples, Italy	National/state lead (Italy)	Regional/National Lead Subgroup	
Lucio	Selvaggi		0000-0001-6920-3103	Department of Advanced Medical and Surgical Sciences, Università degli Studi della Campania "Luigi Vanvitelli"	Naples, Italy	National/state lead (Italy)	Regional/National Lead Subgroup	

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Francesco	Selvaggi		0000-0002-3219-3797	Department of Advanced Medical and Surgical Sciences, Università degli Studi della Campania "Luigi Vanvitelli"	Naples, Italy	National/state lead (Italy)	Regional/National Lead Subgroup	
Gaetano	Gallo		0000-0003-1066-4671	Department of Surgery, Sapienza University of Roma	Rome, Italy	National/state lead (Italy)	Regional/National Lead Subgroup	
Francesco	Pata		0000-0003-2634-1199	Department of Surgery, Nicola Giannettasio Hospital	Corigliano-Rossano, Italy	National/state lead (Italy)	Regional/National Lead Subgroup. Writing group.	
Cristiana	Riboni		0000-0003-0721-2463	Kantonspital Olten	Olten, Switzerland	National/state lead (Italy)	Regional/National Lead Subgroup	
Michele	Danzi		0000-0002-2496-4459	Public Health Department, University of Naples "Federico II"	Naples, Italy	Site lead and collaborator		
Marcello	De Luca		0000-0002-2317-6119	Public Health Department, University of Naples "Federico II"	Naples, Italy	Collaborator		
Ruggero	Lionetti		0000-0003-1165-2576	Public Health Department, University of Naples "Federico II"	Naples, Italy	Collaborator		
Michele	Danzi		0000-0002-2496-4459	Public Health Department, University of Naples "Federico II"	Naples, Italy	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Luciano	Grimaldi		0000-0002-2393-8398	Public Health Department, University of Naples "Federico II"	Naples, Italy	Site lead and collaborator		
Francesco	Corcione		0000-0002-7157-5157	Public Health Department, University of Naples "Federico II"	Naples, Italy	Collaborator		
Michele	Manigrasso		0000-0001-8204-7942	Department of Clinical Medicine and Surgery, "Federico II" University of Naples	Naples, Italy	Site lead and collaborator		
Marco	Milone		0000-0001-5612-1926	Department of Clinical Medicine and Surgery, "Federico II" University of Naples	Naples, Italy	Collaborator		
Giovanni Domenico	De Palma		0000-0001-7474-7180	Department of Clinical Medicine and Surgery, "Federico II" University of Naples	Naples, Italy	Collaborator		
Alessia	Biancafarina		0000-0002-7255-9060	Department of Surgery, San Donato Hospital	Arezzo, Italy	Site lead and collaborator		
Valentina	Mariottini		0000-0002-7055-2607	Department of Surgery, San Donato Hospital	Arezzo, Italy	Collaborator		
Marco	De Prizio		0000-0003-0872-9229	Department of Surgery, San Donato Hospital	Arezzo, Italy	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Leonardo	Solaini		0000-0002-5031-9285	Department of Surgery, Morgagni-Pierantoni Hospital	Forlì, Italy	Site lead and collaborator		
Davide	Cavaliere		0000-0001-8971-5704	Department of Surgery, Morgagni-Pierantoni Hospital	Forlì, Italy	Collaborator		
Gabriele	Vigutto		0000-0001-5933-0838	Department of Surgery, Morgagni-Pierantoni Hospital	Forlì, Italy	Collaborator		
Antonio	Castaldi		0000-0003-3084-7942	Department of Gastroenterological Surgery, A. Cardarelli Hospital	Naples, Italy	Site lead and collaborator		
Alessio	Palumbo		0000-0002-4109-3915	Department of Gastroenterological Surgery, A. Cardarelli Hospital	Naples, Italy	Collaborator		
Carmine	Antropoli		0000-0001-6869-5783	Department of Gastroenterological Surgery, A. Cardarelli Hospital	Naples, Italy	Collaborator		
Valter	Ripetti		0000-0003-2794-9876	Department of Pelvic Floor Surgery and Proctology, Campus Bio-Medico University of Rome	Rome, Italy	Site lead and collaborator		
Paolo	Luffarelli		0000-0002-2503-8123	Department of Pelvic Floor Surgery and Proctology, Campus Bio-Medico University of Rome	Rome, Italy	Collaborator		
Gabriella T.	Capolupo			Department of Surgery, Campus Bio-Medico University of Rome	Rome, Italy	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Marco	Caricato			Department of Surgery, Campus Bio-Medico University of Rome	Rome, Italy	Collaborator		
Filippo	Carannante			Department of Surgery, Campus Bio-Medico University of Rome	Rome, Italy	Collaborator		
Michele	Grassia		0000-0002-8111-9518	General Surgery Department, Ospedale "Ceccarini"	Riccione, Italy	Site lead and collaborator		
Andrea	Lucchi		0000-0002-1688-3958	General Surgery Department, Ospedale "Ceccarini"	Riccione, Italy	Collaborator		
Antonio	Schimera		0000-0002-5069-0922	General Surgery Department, Ospedale "Ceccarini"	Riccione, Italy	Collaborator		
Giuseppe	Palomba		0000-0003-3954-5166	Department of Clinical Medicine and Surgery, Federico II University of Naples	Naples, Italy	Site lead and collaborator		
Giovanni	Aprea		0000-0003-2487-1006	Department of Clinical Medicine and Surgery, Federico II University of Naples	Naples, Italy	Collaborator		
Carlo V.	Feo		0000-0003-0699-5689	Department of General Surgery, Azienda Unità Sanitaria Locale di Ferrara	Ferrara, Italy	Site lead and collaborator		
Nicolò	Fabbri		0000-0001-7039-3717	Department of General Surgery, Azienda Unità Sanitaria Locale di Ferrara	Ferrara, Italy	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Marco	Torchiaro		0000-0002-6226-2730	Department of General Surgery, Azienda Unità Sanitaria Locale di Ferrara	Ferrara, Italy	Collaborator		
Marcodomenico	Mazza			Hospital Castelfranco	Veneto, Italy	Site lead and collaborator		
Paolino	De Marco		0000-0002-3880-3197	Department of General Surgery, Maria Immacolata Longo Hospital	Mussomeli, Italy	Site lead and collaborator		
Giulia	Bagaglini			General Surgery, Policlinico di Roma Tor Vergata	Rome, Italy	Site lead and collaborator		
Michele	Grande			General Surgery, Policlinico di Roma Tor Vergata	Rome, Italy	Site lead and collaborator		
Pierfrancesco	Lapolla		0000-0002-3088-5263	Department of Surgery "Pietro Valdoni", Policlinico Umberto I, Sapienza University of Rome	Rome, Italy	Site lead and collaborator		
Andrea	Mingoli		0000-0001-5437-9085	Department of Surgery "Pietro Valdoni", Policlinico Umberto I, Sapienza University of Rome	Rome, Italy	Collaborator		
Gioia	Brachini		0000-0001-6724-5588	Department of Surgery "Pietro Valdoni", Policlinico Umberto I, Sapienza University of Rome	Rome, Italy	Collaborator		
Nicoletta Sveva	Pipitone Federico		0000-0002-1697-2846	Department of General Surgery, Ospedale Edoardo Agnelli	Pinerolo, Torino, Italy	Site lead and collaborator		
Marcello	Calabrò		0000-0003-3306-0360	Department of General Surgery, Ospedale Edoardo Agnelli	Pinerolo, Torino, Italy	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Alessandra	Murgese		0000-0002-5395-6087	Department of General Surgery, Ospedale Edoardo Agnelli	Pinerolo, Torino, Italy	Collaborator		
Alberto	Aiolfi			Sant'Ambrogio Clinical Institute	Milan, Italy	Site lead and collaborator		
Emanuele	Mini			Sant'Ambrogio Clinical Institute	Milan, Italy	Collaborator		
Davide	Bona			Sant'Ambrogio Clinical Institute	Milan, Italy	Collaborator		
Renato	Patrone		0000-0002-6969-4157	Hepatopancreaticobiliary Department, IRCCS Pascale Istituto Nazionale Tumori	Naples, Italy	Site lead and collaborator		
Aurelio	Nasto		0000-0003-4891-8358	Department of General surgey, PO Polla	Salerno, Italy	Collaborator		
Davide	Pertile		0000-0002-2353-0253	Chirurgia Generale ad Indirizzo Oncologico, IRCCS Ospedale Policlinico San Martino	Genova, Italy	Site lead and collaborator		
Stefano	Scabini		0000-0001-8011-0928	Chirurgia Generale ad Indirizzo Oncologico, IRCCS Ospedale Policlinico San Martino	Genova, Italy	Collaborator		
Domenico	Soriero		0000-0002-1702-4864	Chirurgia Generale ad Indirizzo Oncologico, IRCCS Ospedale Policlinico San Martino	Genova, Italy	Collaborator		
Andrea	Massobrio		0000-0002-2708-6356	Chirurgia Generale ad Indirizzo Oncologico, IRCCS Ospedale Policlinico San Martino	Genova, Italy	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Selene	Deiana		0000-0002-7372-0979	Chirurgia Generale ad Indirizzo Oncologico, IRCCS Ospedale Policlinico San Martino	Genova, Italy	Collaborator		
Giacomo	Carganico		0000-0001-5779-9632	Chirurgia Generale ad Indirizzo Oncologico, IRCCS Ospedale Policlinico San Martino	Genova, Italy	Collaborator		
Mauro	Montuori		0000-0002-7968-2109	Department of Surgery, Policlinico San Pietro	San Pietro, Italy	Site lead and collaborator		
Enrico	Pinotti		0000-0003-3063-4170	Department of Surgery, Policlinico San Pietro	San Pietro, Italy	Collaborator		
Giulia	Carrara		0000-0001-5699-5404	Department of Surgery, Policlinico San Pietro	San Pietro, Italy	Collaborator		
Giorgio	Lisi		0000-0002-3842-0815	Department of Surgery, Sant'Eugenio Hospital	Rome, Italy	Site lead and collaborator		
Domenico	Spoletini		0000-0001-5116-9963	Department of Surgery, Sant'Eugenio Hospital	Rome, Italy	Collaborator		
Rosa	Menditto		0000-0001-6617-1468	Department of Surgery, Sant'Eugenio Hospital	Rome, Italy	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Marco	Pace		0000-0003-2711-2937	Department of Medical and Surgical Sciences and Translational Medicine, St Andrea University Hospital, Sapienza University	Rome, Italy	Collaborator		
Niccolò	Petrucciani		0000-0002-4639-5613	Department of Medical and Surgical Sciences and Translational Medicine, St Andrea University Hospital, Sapienza University	Rome, Italy	Site lead and collaborator		
Giuseppe	Nigri		0000-0002-7656-7789	Department of Medical and Surgical Sciences and Translational Medicine, St Andrea University Hospital, Sapienza University	Rome, Italy	Collaborator		
Diego	Sasia		0000-0003-3162-4302	Department of Surgery, General and Oncological Surgery Unit, Santa Croce and Carle Hospital	Cuneo, Italy	Site lead and collaborator		
Martina	Girardi		0000-0001-7899-1316	Department of Surgery, General and Oncological Surgery Unit, Santa Croce and Carle Hospital	Cuneo, Italy	Collaborator		
Giorgio	Giraudo		0000-0002-0273-0096	Department of Surgery, General and Oncological Surgery Unit, Santa Croce and Carle Hospital	Cuneo, Italy	Collaborator		
Jacopo	Andreuccetti			General Surgery 2, ASST Spedali Civili of Brescia	Brescia, Italy	Site lead and collaborator		
Stefano	Rossi		0000-0002-9022-4096	Department of General and Emergency Surgery, San Filippo Neri Hospital	Rome, Italy	Site lead and collaborator		
Alessandro	Scorsi		0000-0001-7488-1021	Department of General and Emergency Surgery, San Filippo Neri Hospital	Rome, Italy	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Caterina	Puccioni		0000-0001-6092-7957	Department of General and Emergency Surgery, San Filippo Neri Hospital	Rome, Italy	Collaborator		
Biagio	Picardi		0000-0002-1805-5849	Department of General and Emergency Surgery, San Filippo Neri Hospital	Rome, Italy	Collaborator		
Alessandro	Anastasi		0000-0002-0782-7882	Chirurgia Generale, Ospedale San Giovanni Di Dio	Firenze, Italy	Collaborator		
Riccardo	Borreca		0000-0002-2950-3715	Chirurgia Generale, Ospedale San Giovanni Di Dio	Firenze, Italy	Collaborator		
Elvira	Adinolfi		0000-0001-6912-3146	Chirurgia Generale, Ospedale San Giovanni Di Dio	Firenze, Italy	Collaborator		
Giuseppe	Canonico		0000-0001-6082-5037	Chirurgia Generale, Ospedale San Giovanni Di Dio	Firenze, Italy	Site lead and collaborator		
Tommaso	Nelli		0000-0002-4748-8651	Chirurgia Generale, Ospedale San Giovanni Di Dio	Firenze, Italy	Collaborator		
Francesco	Carmignani		0000-0002-6478-791X	Chirurgia Generale, Ospedale San Giovanni Di Dio	Firenze, Italy	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Edoardo	Baldini		0000-0002-0252-2190	Unità Operativa Complessa Chirurgia, Ospedale Santa Maria delle Stelle	Melzo, Italy	Site lead and collaborator		
Olivia	Boccia		0000-0002-0474-2293	Unità Operativa Complessa Chirurgia, Ospedale Santa Maria delle Stelle	Melzo, Italy	Collaborator		
Alessia	Kersik		0000-0002-2888-9572	Unità Operativa Complessa Chirurgia, Ospedale Santa Maria delle Stelle	Melzo, Italy	Collaborator		
Francesco	Fleres		0000-0002-1092-8975	General Surgery Unit, ASST Valtellina e Alto Lario, Sondrio Hospital	Sondrio, Italy	Site lead and collaborator		
Guglielmo	Clarizia		0000-0003-0592-2904	General Surgery Unit, ASST Valtellina e Alto Lario, Sondrio Hospital	Sondrio, Italy	Collaborator		
Alessandro	Longhini		0000-0002-4293-0754	General Surgery Unit, ASST Valtellina e Alto Lario, Sondrio Hospital	Sondrio, Italy	Collaborator		
Nicolo	Mariani			Sao Paolo Hospital	Milan, Italy	Site lead and collaborator		
Andrea	Balla		0000-0002-0182-8761	UOC of General and Minimally Invasive Surgery, Hospital "San Paolo"	Rome, Italy	Site lead and collaborator		
Pasquale	Lepiane		0000-0003-0150-8626	UOC of General and Minimally Invasive Surgery, Hospital "San Paolo"	Rome, Italy	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Sergio	Petrocca		0000-0002-3430-1747	UOC of General and Minimally Invasive Surgery, Hospital "San Paolo"	Rome, Italy	Collaborator		
Maria Chiara	Ranucci		0000-0001-5765-8143	Digestive and Trauma Surgery, St Mary Hospital	Terni, Italy	Site lead and collaborator		
Luca	Morelli		0000-0002-7742-9556	General Surgery Unit, Department of Translational Research and New Technologies in Medicine and Surgery, University of Pisa	Pisa, Italy	Site lead and collaborator		
Gregorio	Di Franco		0000-0003-2156-369X	General Surgery Unit, Department of Translational Research and New Technologies in Medicine and Surgery, University of Pisa	Pisa, Italy	Collaborator		
Francesco	Porcelli		0000-0002-1415-6693	General Surgery Unit, Department of Translational Research and New Technologies in Medicine and Surgery, University of Pisa	Pisa, Italy	Collaborator		
Simone	Guadagni		0000-0001-9072-8166	General Surgery Unit, Department of Translational Research and New Technologies in Medicine and Surgery, University of Pisa	Pisa, Italy	Collaborator		
Niccolò	Furbetta		0000-0002-7135-2666	General Surgery Unit, Department of Translational Research and New Technologies in Medicine and Surgery, University of Pisa	Pisa, Italy	Collaborator		
Andrea	Romanzi		0000-0003-3603-1338	Department of General Surgery, Valduce Hospital	Como, Italy	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Maria	Milanesi		0000-0003-4826-1624	Department of General Surgery, Valduce Hospital	Como, Italy	Collaborator		
Barbara	Vignati		0000-0003-0454-2432	Department of Clinical and Biomedical Sciences "Luigi Sacco", University of Milan	Milan, Italy	Collaborator		
Alberto	Vannelli		0000-0002-8894-5361	Department of General Surgery, Valduce Hospital	Como, Italy	Collaborator		
Roberta	Scolaro		0000-0001-7634-5003	Department of General Surgery, Valduce Hospital	Como, Italy	Collaborator		
Antonella	Putortì		0000-0001-5104-2700	Department of General Surgery, Valduce Hospital	Como, Italy	Collaborator		
Almu'atasim	Khamees		0000-0002-6282-8351	Department of Clinical Sciences, Faculty of Medicine, Yarmouk University	Irbid, Jordan	National/state lead (Jordan), site lead	Regional/National Lead Subgroup	
Sami A.	Almasarweh		0000-0002-6824-6483	Faculty of Medicine, Jordan University of Science and Technology	Irbid, Jordan	National/state lead (Jordan)	Regional/National Lead Subgroup	
Ali	Guboug		0000-0002-7392-3557	Department of Clinical Sciences, Faculty of Medicine, Yarmouk University	Irbid, Jordan	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Luai	Abu-Ismail		0000-0003-4971-7339	Department of Clinical Sciences, Faculty of Medicine, Yarmouk University	Irbid, Jordan	Collaborator		
Khayry	Al-Shami		0000-0003-1813-3592	Department of Clinical Sciences, Faculty of Medicine, Yarmouk University	Irbid, Jordan	Collaborator		
Sajeda	Awadi		0000-0003-2424-3333	Department of Clinical Sciences, Faculty of Medicine, Yarmouk University	Irbid, Jordan	Collaborator		
Manal Zain Mohammed	Haij		0000-0002-8675-8239	General Surgery Department, Islamic Hospital, Abdali	Amman, Jordan	Collaborator		
Bourhan M.H.	Alrayes		0000-0002-0463-2270	General Surgery Department, Islamic Hospital, Abdali	Amman, Jordan	Site lead and collaborator		
Manolia	Al-Kubaisy		0000-0002-3266-0658	Faculty of Medicine, The University of Jordan	Amman, Jordan	Site lead and collaborator		
Mohammad	Rashdan		0000-0003-4518-1573	Department of General Surgery, Faculty of Medicine, The University of Jordan	Amman, Jordan	Collaborator		
Mohammad	Abufaraj		0000-0002-6603-6319	Division of Urology, Department of Special Surgery, Faculty of Medicine, The University of Jordan	Amman, Jordan	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Hanan	Mansour		0000-0002-9006-2402	Department of General Surgery, Faculty of Medicine, The University of Jordan	Amman, Jordan	Collaborator		
Ahmad A.	Toubasi		0000-0002-4688-9728	Faculty of Medicine, The University of Jordan	Amman, Jordan	Collaborator		
Muayad	Azzam		0000-0002-2046-8343	Faculty of Medicine, The University of Jordan	Amman, Jordan	Collaborator		
Tala	Al-Aydi		0000-0002-1638-9044	Faculty of Medicine, The University of Jordan	Amman, Jordan	Collaborator		
Isam	Bsisu		0000-0002-8999-8334	Department of Anesthesia and Intensive Care, Faculty of Medicine, The University of Jordan	Amman, Jordan	Collaborator		
Oweiss	Khrais		0000-0001-8692-4607	Department of General Surgery, Faculty of Medicine, The University of Jordan	Amman, Jordan	Collaborator		
Mohammad	Bani Hani		0000-0003-3929-1688	Department of General Surgery and Urology Jordan University of Science and Technology King Abdullah University Hospital Irbid		Collaborator		
Hamza	Daradkeh		0000-0002-5582-0298	Department of Accidentand Emergency Medicine, Jordan University of Science and Technology, King Abdullah University Hospital	Irbid, Jordan	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Hussam	Jamous		0000-0002-2463-7028	Department of General Surgery and Urology, Jordan University of Science and Technology, King Abdullah University Hospital	Irbid, Jordan	Collaborator		
Mohammad	Dardour		0000-0003-1824-7290	Department of General Surgery and Urology, Jordan University of Science and Technology, King Abdullah University Hospital	Irbid, Jordan	Collaborator		
Renad	Msameh		0000-0003-4198-8054	Department of General Surgery and Urology, Jordan University of Science and Technology, King Abdullah University Hospital	Irbid, Jordan	Collaborator		
Hadeel	Alasawdeh		0000-0003-0977-4718	Faculty of Medicine, Jordan University of Science and Technology	Irbid, Jordan	Collaborator		
Saeed K.	Shumrakh		0000-0001-7779-8362	Faculty of Medicine, Jordan University of Science and Technology	Irbid, Jordan	Collaborator		
Yahya F.	Oqdeh		0000-0002-2828-7096	Faculty of Medicine, Jordan University of Science and Technology	Irbid, Jordan	Collaborator		
Mohammad A.	AL Hamoud		0000-0001-7596-665X	Faculty of Medicine, Jordan University of Science and Technology	Irbid, Jordan	Collaborator		
Amro	Abuleil		0000-0002-9115-0084	Royal Hospital, Jordan	Amman, Jordan	Site lead and collaborator		
Hazim Sameer Mohammad	Ababneh			Prince Hashim Bin Al-Hussein	Zarqa, Jordan	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Muhammed	Elhadi		0000-0001-6406-4212	Faculty of Medicine, University of Tripoli (Tripoli University Hospital)	Tripoli, Libya	Regional Lead (MENA, Chief Communications) and National Lead (Libya)	Regional/National Lead Subgroup	
Wisam A.	Hasan		0000-0003-0116-9628	Department of Surgery, Albayda Medical Center	Albayda, Libya	Site lead and collaborator		
Ebrahim M.	Ali		0000-0003-1613-2553	Department of Surgery, Albayda Medical Center	Albayda, Libya	Collaborator		
El Sharif F.	Khalil		0000-00027380-7804	Department of Surgery, Albayda Medical Center	Albayda, Libya	Collaborator		
Ahmed Faraj	Abaidalla		0000-0001-6269-160x	Department of Surgery, Albayda Medical Center	Albayda, Libya	Collaborator		
Haifaa	Il Haddad		0000-0001-5769-0514	Department of Surgery, Albayda Medical Center	Albayda, Libya	Collaborator		
Mohamed G.	Amnaina		0000-0002-5251-9686	Department of General Surgery, Al-Wahda Hospital	Derna, Libya	Site lead and collaborator		
Husayn M.	Alabd		0000-0003-4852-7314	Department of General Surgery, Al-Wahda Hospital	Derna, Libya	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Sumayyah G.	Bahroun		0000-0002-3324-9537	Zawia Teaching Hospital	Zawia, Libya	Site lead and collaborator		
Eman	Younes		0000-0001-8272-486X	Zawia Teaching Hospital	Zawia, Libya	Collaborator		
Eman	Al Sagheir		0000-0002-8594-5737	Zawia Teaching Hospital	Zawia, Libya	Collaborator		
Ali	Ali		0000-0001-9150-069X	Zawia Teaching Hospital	Zawia, Libya	Collaborator		
Malak	Khamaj		0000-0002-9352-2574	Zawia Teaching Hospital	Zawia, Libya	Collaborator		
Mohamed	Ashfersh		0000-0001-9260-0588	Zawia Teaching Hospital	Zawia, Libya	Collaborator		
Reyad	Ekhmaj		0000-0001-8429-412X	Zawia Teaching Hospital	Zawia, Libya	Collaborator		
Issa A.	Abuzeid		0000-0002-1231-2840	Department of General Surgery, University Of Benghazi	Benghazi, Libya	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Mohammed N.	Albaraesi		0000-0003-4932-3962	Department of General Surgery, University Of Benghazi	Benghazi, Libya	Collaborator		
Salah S.	Taktuk		0000-0003-4637-4406	Department of General Surgery, University Of Benghazi	Benghazi, Libya	Collaborator		
Wafa	Aldressi		0000-0002-6048-0144	Department of General Surgery, University Of Benghazi	Benghazi, Libya	Site lead and collaborator		
Khalid F.	Eltaeb		0000-0002-5293-0627	Department of General Surgery, University Of Benghazi	Benghazi, Libya	Collaborator		
Jamal M.	Gomaty		0000-0003-2341-7063	Department of General Surgery, University Of Benghazi	Benghazi, Libya	Collaborator		
Hibah Bileid	Bakeer		0000-0002-7456-6344	Surgery Department, Gharyan Central Hospital	Gharyan, Libya	Site lead and collaborator		
Akram Mohammed	Alkaseek		0000-0002-7915-1826	Surgery Department, Gharyan Central Hospital	Gharyan, Libya	Site lead and collaborator		
Rehab	Alarabi		0000-0003-4102-9697	General Surgery Department, Medical Care Clinic	Tripoli, Libya	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Fatima Z.	Gjam		0000-0002-0648-9527	General Surgery Department, Medical Care Clinic	Tripoli, Libya	Collaborator		
Fras A.D.	Elhajdawe		0000-0002-2952-2609	General Surgery Department, Metiga Military Hospital	Tripoli, Libya	Site lead and collaborator		
Ahlam M.	Shuayb		0000-0002-6171-7895	Department of Internal Medicine, Misrata Medical Center	Misrata, Libya	Site lead and collaborator		
Amin	Egdeer		0000-0001-7278-0630	Nalut Central Hospital	Nalut, Libya	Collaborator		
Ayman	Almugaddami		0000-0001-7548-5995	Nalut Central Hospital	Nalut, Libya	Site lead and collaborator		
Eman A.	Abdulwahed		0000-0002-0570-4678	General Surgery Department, Tripoli Central Hospital	Tripoli, Libya	Site lead and collaborator		
Reem	Ghmagh		0000-0002-4012-5938	General Surgery Department, Tripoli Central Hospital	Tripoli, Libya	Collaborator		
Entisar	Alshareea		0000-0002-9223-2532	General Surgery Department, Tripoli Central Hospital	Tripoli, Libya	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Doaa	Gidiem		0000-0002-6186-7922	General Surgery Department, Tripoli Central Hospital	Tripoli, Libya	Collaborator		
Aamal	Askar		0000-0002-4996-4455	General Surgery Department, Tripoli Central Hospital	Tripoli, Libya	Collaborator		
Sarah	Aljamal		0000-0002-8925-0326	General Surgery Department, Tripoli Central Hospital	Tripoli, Libya	Collaborator		
Abdulqudus	Deeknah		0000-0002-6133-179X	General Surgery Department, Tripoli Central Hospital	Tripoli, Libya	Collaborator		
Marwa	Biala		0000-0002-2707-3133	General Surgery Department, Tripoli Central Hospital	Tripoli, Libya	Collaborator		
Sharf	Barka		0000-0001-5198-1513	General Surgery Department, Tripoli Central Hospital	Tripoli, Libya	Collaborator		
Khaula	Kamour		0000-0001-7728-189X	General Surgery Department, Tripoli Central Hospital	Tripoli, Libya	Collaborator		
Hind	Alameen		0000-0002-6755-6519	Department of General Surgery, Tripoli University Hospital	Tripoli, Libya	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Anwaar	Abozid		0000-0002-7312-1562	Department of General Surgery, Tripoli University Hospital	Tripoli, Libya	Collaborator		
Mohamed	Alsori		0000-0002-4097-2053	Department of General Surgery, Tripoli University Hospital	Tripoli, Libya	Collaborator		
Sanad	Kanna		0000-0001-8470-5697	Department of General Surgery, Tripoli University Hospital	Tripoli, Libya	Collaborator		
Tahani	Elgadi		0000-0002-2107-9972	Department of General Surgery, Tripoli University Hospital	Tripoli, Libya	Collaborator		
Reyam	Naana		0000-0002-1704-8663	Department of General Surgery, Tripoli University Hospital	Tripoli, Libya	Collaborator		
Abdulrhman	Marwan		0000-0002-5193-6349	Department of General Surgery, Tripoli University Hospital	Tripoli, Libya	Collaborator		
Osama	Omar			Department of Surgery, Yefren Hospital	Yefren, Libya	Site lead and collaborator		
Jeremy Y.C.	Teoh		0000-0002-9361-2342	Department of Surgery, S.H. Ho Urology Centre, The Chinese University of Hong Kong	Hong Kong, China	Regional recruitment lead	Regional/National Lead Subgroup	
Ida Nadiah	Ahmed Fathil			UiTM Hospital Sungai Buloh	Sungai Buloh, Malaysia	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Zainal Z.	Adwin		0000-0002-3685-4142	UiTM Hospital Sungai Buloh	Sungai Buloh, Malaysia	Site lead and collaborator		
Mohamedraed	Elshami		0000-0002-9977-0923	Department of Surgery, University Hospitals Cleveland Medical Center	Cleveland, Ohio, United States of America	Regional Lead (MENA, Senior Advisory)	Regional/National Lead Subgroup	
Luis Adrian	Alvarez-Lozada		0000-0002-7010-5698	Universidad Autonoma de Nuevo Leon, School of Medicine and University Hospital "Dr. José Eleuterio González"	Monterrey, Mexico	Site lead and collaborator		
Daniela G.	Durán-Castro		0000-0002-6017-1923	Universidad Autonoma de Nuevo Leon, School of Medicine and University Hospital "Dr. José Eleuterio González"	Monterrey, Mexico	Collaborator		
Manuel E.	de la O-Escamilla		0000-0003-4317-2948	Universidad Autonoma de Nuevo Leon, School of Medicine and University Hospital "Dr. José Eleuterio González"	Monterrey, Mexico	Collaborator		
Francisco J.	Arrambide-Garza		0000-0002-2517-749X	Universidad Autonoma de Nuevo Leon, School of Medicine and University Hospital "Dr. José Eleuterio González"	Monterrey, Mexico	Collaborator		
Gerardo E.	Muñoz-Maldonado		0000-0002-8937-7909	Universidad Autonoma de Nuevo Leon, School of Medicine and University Hospital "Dr. José Eleuterio González"	Monterrey, Mexico	Collaborator		
Alejandro	Quiroga-Garza		0000-0002-5398-247X	Universidad Autonoma de Nuevo Leon, School of Medicine and University Hospital "Dr. José Eleuterio González"	Monterrey, Mexico	National lead (Mexico)	Regional/National Lead Subgroup	

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Hind	El Azzazi		0000-0001-8166-720X	Ibn Sina Hospital	Rabat, Morocco	National/state lead (Morocco), site lead	Regional/National Lead Subgroup	
Yousra	El Assaad		0000-0003-1577-8301	Ibn Sina Hospital	Rabat, Morocco	Collaborator		
Yassine	Mrissa		0000-0001-7203-1322	Ibn Sina Hospital	Rabat, Morocco	Collaborator		
Mouad	Koukou		0000-0001-8889-3971	Ibn Sina Hospital	Rabat, Morocco	Collaborator		
Chris	Varghese		0000-0001-7369-8639	Department of General Surgery, Whangarei Hospital (NDHB)	Whangārei, New Zealand	National/state lead (New Zealand)	Regional/National Lead Subgroup	
Mohammed K.	Alqassab		0000-0003-3935-7691	Department of General Surgery, Dunedin Public Hospital	Dunedin, New Zealand	Site lead and collaborator		
Tracey	Barnes		0000-0003-0760-7000	Department of General Surgery, Dunedin Public Hospital	Dunedin, New Zealand	Site lead and collaborator		
Mark W.	Thompson-Fawcett		0000-0001-7515-4027	Department of General Surgery, Dunedin Public Hospital	Dunedin, New Zealand	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Matthew	McGuinness		0000-0002-0842-5922	Department of General Surgery, Whangarei Hospital (NDHB)	Whangārei, New Zealand	Site lead and collaborator		
Josh	Mitchell		0000-0002-4026-8680	Department of General Surgery, Whangarei Hospital (NDHB)	Whangārei, New Zealand	Collaborator		
Megan	Grinlinton		0000-0003-1676-6388	Department of General Surgery, Whangarei Hospital (NDHB)	Whangārei, New Zealand	Collaborator		
Rowan	Auchterlonie		0000-0001-6913-2616	Department of General Surgery, Whangarei Hospital (NDHB)	Whangārei, New Zealand	Collaborator		
Vilingatoni	Hasiata		0000-0002-2729-9378	Department of General Surgery, Whangarei Hospital (NDHB)	Whangārei, New Zealand	Collaborator		
Christopher	Harmston		0000-0001-5045-5191	Department of General Surgery, Whangarei Hospital (NDHB)	Whangārei, New Zealand	Collaborator		
Chelsea	Allen-Brough		0000-0003-1756-1886	Department of Surgery, Hutt Valley District Health Board	Lower Hutt, New Zealand	Site lead and collaborator		
Lauren	Siggins		0000-0001-6791-6986	Department of Surgery, Capital & Coast District Health Board	Wellington, New Zealand	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
George	Weeratunga		0000-0002-8736-9067	Department of Surgery, Capital & Coast District Health Board	Wellington, New Zealand	Collaborator		
Anthony	Lin		0000-0003-1962-860X	Department of Surgery, Capital & Coast District Health Board	Wellington, New Zealand	Site lead and collaborator		
William	Xu		0000-0002-1270-2769	Department of Surgery, North Shore Hospital	Auckland, New Zealand	Site lead and collaborator		
Holly	Cook		0000-0001-9275-5715	Department of Surgery, North Shore Hospital	Auckland, New Zealand	Collaborator		
Nusr	Ghamri		0000-0002-0959-1367	Department of Surgery, North Shore Hospital	Auckland, New Zealand	Collaborator		
Nejo	Joseph		0000-0003-2872-0977	Department of Surgery, School of Medicine, The University of Auckland	Auckland, New Zealand	Site lead and collaborator		
Helen	Zheng		0000-0001-5027-1296	Department of Surgery, School of Medicine, The University of Auckland	Auckland, New Zealand	Collaborator		
Milidu V.B.	Ratnayake		0000-0002-7104-6685	Department of Surgery, School of Medicine, The University of Auckland	Auckland, New Zealand	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Ian P.	Bissett		0000-0001-6530-2454	Department of Surgery, School of Medicine, The University of Auckland	Auckland, New Zealand	Collaborator		
Ademola Adetoyese	Adeyeye		0000-0003-1739-5013	Department of Surgery, Afe Babalola University	Ado-Ekiti, Ekiti State, Nigeria	National lead (Nigeria), site lead	Regional/National Lead Subgroup	
Mohammed Taofiq	Olayinka			Department of Surgery, Division of Urology, University of Ilorin Teaching Hospital	Ilorin, Nigeria	National/state lead (Nigeria)	Regional/National Lead Subgroup	
Yakubu	Alfa		0000-0001-7420-2965	Department of Surgery, Ahmadu Bello University Teaching Hospital	Zaria, Nigeria	Site lead and collaborator		
Muhammad	Daniyan		0000-0002-1615-6881	Department of Surgery, Ahmadu Bello University Teaching Hospital	Zaria, Nigeria	Collaborator		
Musliu Adetola	Tolani		0000-0003-4296-9744	Department of Surgery, Ahmadu Bello University Teaching Hospital	Zaria, Nigeria	Collaborator		
Muhammed	Bashir		0000-0002-5845-5820	Department of Surgery, Ahmadu Bello University Teaching Hospital	Zaria, Nigeria	Collaborator		
Keffi Mubarak	Musa		0000-0003-0946-156X	Department of Surgery, Ahmadu Bello University Teaching Hospital	Zaria, Nigeria	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Henry Ehidiamen	Omon		0000-0002-1945-8615	Department of Surgery, Obafemi Awolowo University Teaching Hospitals Complex	Ile-Ife, Osun State, Nigeria	Site lead and collaborator		
Simon Adewale	Balogun		0000-0003-4403-2007	Department of Surgery, Obafemi Awolowo University Teaching Hospitals Complex	Ile-Ife, Osun State, Nigeria	Collaborator		
Christopher Obinna	Anele		0000-0002-2285-5064	Department of Surgery, Obafemi Awolowo University Teaching Hospitals Complex	Ile-Ife, Osun State, Nigeria	Collaborator		
Abdul Hafiz O.	Adesunkanmi		0000-0002-2747-7082	Department of Surgery, Obafemi Awolowo University Teaching Hospitals Complex	Ile-Ife, Osun State, Nigeria	Collaborator		
Samuel Chibuzo	Ajekwu		0000-0003-3085-1220	Department of Surgery, Obafemi Awolowo University Teaching Hospitals Complex	Ile-Ife, Osun State, Nigeria	Collaborator		
Ehis	Afeikhena		0000-0001-9370-2746	Department of Surgery, Afe Babalola University	Ado-Ekiti, Ekiti State, Nigeria	Collaborator		
Ifeanyichukwu Kelvin	Egbuchulem			University College Hospital	Ibadan, Oyo State, Nigeria	Site lead and collaborator		
Ezeme	Constantine			University College Hospital	Ibadan, Oyo State, Nigeria	Collaborator		
Naomi	Olagunju			University College Hospital	Ibadan, Oyo State, Nigeria	Collaborator		
Ulasi Bartholomew	Ikechukwu		0000-0001-7387-2713	University College Hospital	Ibadan, Oyo State, Nigeria	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Adegbolahan	Fakoya		0000-0003-3942-4073	University College Hospital	Ibadan, Oyo State, Nigeria	Collaborator		
Olakoyode O	Ogundoyin		0000-0001-8540-3025	University College Hospital	Ibadan, Oyo State, Nigeria	Collaborator		
Usama	Waqar		0000-0002-9447-5810	Medical College, Aga Khan University	Karachi, Pakistan	National/state lead (Pakistan)	Regional/National Lead Subgroup	
Ronika Devi	Ukrani		0000-0001-9129-9041	Medical College, Aga Khan University	Karachi, Pakistan	National/state lead (Pakistan)	Regional/National Lead Subgroup	
Maheen	Mansoor		0000-0002-8926-9318	Medical College, Aga Khan University	Karachi, Pakistan	National/state lead (Pakistan)	Regional/National Lead Subgroup	
Tofique	Asghar		0000-0002-1117-4634	Surgical Unit 2, Abbasi Shaheed Hospital	Karachi, Pakistan	Collaborator		
Muhammad	Jamaluddin		0000-0002-3290-7235	Surgical Unit 2, Abbasi Shaheed Hospital	Karachi, Pakistan	Site lead and collaborator		
Muhammad	Zahid		0000-0002-2147-3398	Surgical Unit 2, Abbasi Shaheed Hospital	Karachi, Pakistan	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Farjad	Ali		0000-0001-7166-1218	Surgical Unit 2, Abbasi Shaheed Hospital	Karachi, Pakistan	Collaborator		
Tabish	Chawla		0000-0002-3196-7420	Department of Surgery, Aga Khan University Hospital	Karachi, Pakistan	Site lead and collaborator		
Faiqa B.	Aamir		0000-0002-1314-9117	Medical College, Aga Khan University Hospital	Karachi, Pakistan	Collaborator		
Izza	Tahir		0000-0001-7620-5561	Medical College, Aga Khan University Hospital	Karachi, Pakistan	Collaborator		
Emaan	Farhan		0000-0001-6829-8673	Medical College, Aga Khan University Hospital	Karachi, Pakistan	Collaborator		
Kamran H.	Dar		0000-0002-2890-0962	Department of Surgery, Faisalabad Medical University	Faisalabad, Pakistan	Site lead and collaborator		
Abdullah B.	Saeed		0000-0001-5162-898X	Department of Surgery, Faisalabad Medical University	Faisalabad, Pakistan	Collaborator		
Usama	Shahbaz		0000-0002-7553-7086	Department of Surgery, Faisalabad Medical University	Faisalabad, Pakistan	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Muhammad Ilyas	Alozai		0000-0001-9978-4914	Department of Surgery, Faisalabad Medical University	Faisalabad, Pakistan	Collaborator		
Muhammad U.	Akram		0000-0001-8538-7678	Department of Surgery, Dr. Akbar Niazi Teaching Hospital	Islamabad, Pakistan	Collaborator		
Sohaib	Haider		0000-0001-5625-0875	Department of Surgery, Dr. Akbar Niazi Teaching Hospital	Islamabad, Pakistan	Collaborator		
Arrham	Hai		0000-0002-8155-3138	Department of Surgery, Dr. Akbar Niazi Teaching Hospital	Islamabad, Pakistan	Collaborator		
Shaheer	Ahmed		0000-0003-2236-879X	Islamabad Medical and Dental College	Islamabad, Pakistan	Site lead and collaborator		
Akbar	Hussain		0000-0002-5733-3020	Surgical Unit 2, Quaid-e-Azam Medical College/Bhawalpur Victoria Hospital	Bahawalpur, Pakistan	Site lead and collaborator		
Ahmed M.	Durrani		0000-0002-2465-9331	Surgical Unit 2, Quaid-e-Azam Medical College/Bhawalpur Victoria Hospital	Bahawalpur, Pakistan	Collaborator		
Fawad M.	Arbi		0000-0003-0104-4569	Surgical Unit 2, Quaid-e-Azam Medical College/Bhawalpur Victoria Hospital	Bahawalpur, Pakistan	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Fatima	Khaliq		0000-0001-7504-2377	MBBS Benazir Bhutto Hospital	Rawalpindi, Pakistan	Site lead and collaborator		
Muhammad	Abubakr		0000-0003-1348-1045	MBBS Benazir Bhutto Hospital	Rawalpindi, Pakistan	Collaborator		
Noor	Khalid		0000-0003-4928-8749	MBBS Benazir Bhutto Hospital	Rawalpindi, Pakistan	Collaborator		
Rizwan	Khalid		0000-0003-2799-1695	Surgery Central Park Teaching Hospital	Lahore, Pakistan	Collaborator		
Aqsa	Iqbal		0000-0003-4719-6058	Surgery Central Park Teaching Hospital	Lahore, Pakistan	Site lead and collaborator		
Arwa	Javed		0000-0002-8793-1865	Surgery Central Park Teaching Hospital	Lahore, Pakistan	Collaborator		
Hamza	Akhtar		0000-0003-3274-4947	Surgery Central Park Teaching Hospital	Lahore, Pakistan	Collaborator		
Bilal M.	Malik		0000-0001-5870-9942	Surgery Department, District Headquarters Hospital, Rawalpindi Medical University and Allied	Rawalpindi, Pakistan	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Hashim	Khan		0000-0002-0149-1660	Surgery Department, District Headquarters Hospital, Rawalpindi Medical University and Allied	Rawalpindi, Pakistan	Collaborator		
Adam U.A.	Butt		0000-0002-0417-2112	Surgery Department, District Headquarters Hospital, Rawalpindi Medical University and Allied	Rawalpindi, Pakistan	Collaborator		
Abdur R.	Malik		0000-0001-6118-717X	Surgery Department, District Headquarters Hospital, Rawalpindi Medical University and Allied	Rawalpindi, Pakistan	Collaborator		
Daniya S.	Malick		0000-0001-9865-0447	Surgery Department, District Headquarters Hospital, Rawalpindi Medical University and Allied	Rawalpindi, Pakistan	Site lead and collaborator		
Aiza	Asif		0000-0003-4581	Surgery Department, District Headquarters Hospital, Rawalpindi Medical University and Allied	Rawalpindi, Pakistan	Collaborator		
Muhammad Sarfraz	Khan		0000-0002-1251-0695	Surgery Department, District Headquarters Hospital, Rawalpindi Medical University and Allied	Rawalpindi, Pakistan	Collaborator		
Muhammad Idrees	Anwar		0000-0002-7594-3164	Surgery Department, District Headquarters Hospital, Rawalpindi Medical University and Allied	Rawalpindi, Pakistan	Collaborator		
Sadia	Yaqoob		0000-0002-5943-6074	Department of Medicine, Jinnah Medical College Hospital	Karachi, Pakistan	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Furqan A.	Jarullah		0000-0002-9724-759X	Department of Medicine, Jinnah Medical College Hospital	Karachi, Pakistan	Collaborator		
Farooq	Umer		0000-0002-5511-9055	Department of Surgery, Jinnah Medical College Hospital	Karachi, Pakistan	Collaborator		
Soomal	Jamil		0000-0002-9889-1467	Department of Medicine, Jinnah Medical College Hospital	Karachi, Pakistan	Collaborator		
Mohammad	Zarin			Khyber Teaching Hospital	Khyber Pakhtunkhwa, Pakistan	Collaborator		
Adel	Khan			Khyber Teaching Hospital	Khyber Pakhtunkhwa, Pakistan	Site lead and collaborator		
Mansoor	Alam			Khyber Teaching Hospital	Khyber Pakhtunkhwa, Pakistan	Collaborator		
Mahnoor	Shafi			Khyber Teaching Hospital	Khyber Pakhtunkhwa, Pakistan	Collaborator		
Samra	Fakhar			Khyber Teaching Hospital	Khyber Pakhtunkhwa, Pakistan	Collaborator		
Amrat	Ayaz Ali		0000-0002-5383-9606	Surgery Unit 3, Liaquat University of Medical and Health Sciences	Hyderabad, Pakistan	Site lead and collaborator		
Nawaz A.	Dal		0000-0002-4611-384X	Surgery Unit 3, Liaquat University of Medical and Health Sciences	Hyderabad, Pakistan	Site lead and collaborator		
Marvi	Shams		0000-0002-3599-6587	Surgery Unit 3, Liaquat University of Medical and Health Sciences	Hyderabad, Pakistan	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Sundas	Laghari		0000-0003-2202-6861	Surgery Unit 3, Liaquat University of Medical and Health Sciences	Hyderabad, Pakistan	Collaborator		
Yash	Kumar		0000-0002-8909-0887	Liaquat National Hospital and Medical College	Karachi, Pakistan	Collaborator		
Syed Atif	ul Haq		0000-0001-9819-9844	Liaquat National Hospital and Medical College	Karachi, Pakistan	Collaborator		
Areeba	Abdullah		0000-0002-0937-2076	Liaquat National Hospital and Medical College	Karachi, Pakistan	Collaborator		
Sheeraz	Ur Rehman		0000-0002-9828-4376	Liaquat National Hospital	Karachi, Pakistan	Site lead and collaborator		
Farhan	Javed		0000-0003-1720-5267	Department of Surgery, Madinah Teaching Hospital	Faisalabad, Pakistan	Site lead and collaborator		
Wasaq	Ali		0000-0002-1639-3377	Department of Surgery, Madinah Teaching Hospital	Faisalabad, Pakistan	Collaborator		
Shahzaib	Ahmad		0000-0001-9060-6636	Mayo Hospital Lahore	Lahore, Pakistan	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Prabesh	Joshi		0000-0001-6008-2544	Mayo Hospital Lahore	Lahore, Pakistan	Collaborator		
Muhammad Zeeshan	Sarwar		0000-0002-6400-7370	Mayo Hospital Lahore	Lahore, Pakistan	Collaborator		
Syed Asghar	Naqi		0000-0003-4562-1786	Mayo Hospital Lahore	Lahore, Pakistan	Collaborator		
Muhammad I.H.	Daula		0000-0002-8281-7780	Department of Surgery, CMH Lahore Medical College	Lahore, Pakistan	Site lead and collaborator		
Muhammad Tayyab	Ijaz		0000-0003-0242-6446	Department of Surgery, CMH Lahore Medical College	Lahore, Pakistan	Collaborator		
Talha bin	Fazal		0000-0002-9178-2575	Department of Surgery, CMH Lahore Medical College	Lahore, Pakistan	Collaborator		
Amna	Javaid		0000-0002-9193-0793	Department of Surgery, CMH Lahore Medical College	Lahore, Pakistan	Collaborator		
Akram	Rajput		0000-0001-7922-0740	Surgical Unit 5 , Dr. Ruth KM Pfau Civil Hospital	Karachi, Pakistan	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Layiba	Masroor		0000-0002-5749-4692	Surgical Unit 5 , Dr. Ruth KM Pfau Civil Hospital	Karachi, Pakistan	Site lead and collaborator		
Tooba	Shahab		0000-0002-9384-141X	Surgical Unit 5 , Dr. Ruth KM Pfau Civil Hospital	Karachi, Pakistan	Collaborator		
Aimen	Yaqub		0000-0002-3441-3220	Surgical Unit 5 , Dr. Ruth KM Pfau Civil Hospital	Karachi, Pakistan	Collaborator		
Sufian M.	Zahid		0000-0001-7631-205X	General Surgery Department, DHQ Teaching Hospital Sargodha	Sargodha, Pakistan	Site lead and collaborator		
Naveed	Jabbar		0000-0002-6787-4314	General Surgery Department, DHQ Teaching Hospital Sargodha	Sargodha, Pakistan	Collaborator		
Muhammad Hassan	Javeed		0000-0001-8824-2431	General Surgery Department, DHQ Teaching Hospital Sargodha	Sargodha, Pakistan	Collaborator		
Muhammad Qaisar	Karim		0000-0002-6570-256X	General Surgery Department, DHQ Teaching Hospital Sargodha	Sargodha, Pakistan	Collaborator		
Muhammad Asad	Jamal		0000-0001-6595-5551	General Surgery Department, DHQ Teaching Hospital Sargodha	Sargodha, Pakistan	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Mishaal	Fazal		0000-0002-4915-9042	Dept of Surgery, PAF Hospital	Islamabad, Pakistan	Site lead and collaborator		
Fahd Mudassar	Hameed		0000-0003-4390-3771	Dept of Surgery, PAF Hospital	Islamabad, Pakistan	Collaborator		
Mahnoor	Bakhtiar		0000-0002-8383-4873	Dept of Surgery, PAF Hospital	Islamabad, Pakistan	Collaborator		
Aamena	Akhtar		0000-0002-9440-7519	Department of Surgery, Railway General Hospital	Rawalpindi, Pakistan	Site lead and collaborator		
Zartaj A.	Khan		0000-0001-7480-128X	Department of Surgery, Railway General Hospital	Rawalpindi, Pakistan	Collaborator		
Kiran	Rehman		0000-0002-7203-6542	Department of Surgery, Railway General Hospital	Rawalpindi, Pakistan	Collaborator		
Rehan A.	Khan		0000-0002-8045-1471	Department of Surgery, Railway General Hospital	Rawalpindi, Pakistan	Collaborator		
Fareeha	Farooqui			Shifa Tameer-e-Millat University and Shifa International Hospital	Islambad, Pakistan	Site lead and collaborator		
Sibgha	Aimon			Shifa Tameer-e-Millat university and Shifa International Hospital Islambad	Islambad, Pakistan	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Iqra	Marjan			Shifa Tameer-e-Millat university and Shifa International Hospital Islambad	Islambad, Pakistan	Collaborator		
Yousef K.	Al-Saba'a		0000-0003-2001-6774	Department of General Surgery, Al-Shifaa Hospital	Gaza City, Palestine	National/state lead (Palestine)	Regional/National Lead Subgroup	
Dana M.	Alkahlout		0000-0002-1446-213X	Department of General Surgery, Al-Shifaa Hospital	Gaza City, Palestine	National/state lead (Palestine)	Regional/National Lead Subgroup	
Fatima M.	Amer		0000-0002-0469-4746	Department of General Surgery, Al Razi Hospital	Jenin City, West Bank, Palestine	Site lead and collaborator		
Omar	Mostafa		0000-0002-9319-9324	Department of General Surgery, Al Razi Hospital	Jenin City, West Bank, Palestine	Collaborator		
Deema Sami	Naim		0009-0002-2836-5821	Department of Surgery, Beit Hanoun Hospital	Beit Hanoun, Gaza Strip, Palestine	Site lead and collaborator		
Mahmoud	Manasra		0000-0002-2849-3500	Male Surgery Department, Beit Jala Governmental Hospital (Al-Hussein)	Bethlehem, West Bank, Palestine	Site lead and collaborator		
Yazan	Giacaman		0000-0002-3277-2481	Male Surgery Department, Beit Jala Governmental Hospital (Al-Hussein)	Bethlehem, West Bank, Palestine	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Aya	Zawahra		0000-0002-3592-7434	Male Surgery Department, Beit Jala Governmental Hospital (Al-Hussein)	Bethlehem, West Bank, Palestine	Collaborator		
Myyas N.	Erman		0000-0002-5825-7015	Department of General Surgery, Thabet Thabet Governmental Hospital	Tulkarm, West Bank, Palestine	Site lead and collaborator		
Tamara K.	Abu Reyash		0000-0002-0242-6967	Department of General Surgery, Thabet Thabet Governmental Hospital	Tulkarm, West Bank, Palestine	Collaborator		
Sarah M.	Shami		0000-0003-4672-4023	Department of General Surgery, Thabet Thabet Governmental Hospital	Tulkarm, West Bank, Palestine	Collaborator		
Amjad H.	Awwad		0000-0002-4445-3736	Department of General Surgery, Thabet Thabet Governmental Hospital	Tulkarm, West Bank, Palestine	Collaborator		
Hamdoon	Abu-Arish		0000-0001-8909-4493	Department of Surgery, Princess Alia Governmental Hospital	Hebron, West Bank, Palestine	Site lead and collaborator		
Osama	Y. Aljabarein		0000-0001-7677-6161	Department of Surgery, Princess Alia Governmental Hospital	Hebron, West Bank, Palestine	Collaborator		
Saja	Alkomi		0000-0001-6126-1501	Department of Surgery, Princess Alia Governmental Hospital	Hebron, West Bank, Palestine	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Raghad	Dweik		0000-0002-2786-6889	Department of Surgery, Princess Alia Governmental Hospital	Hebron, West Bank, Palestine	Collaborator		
Khalil O.	Atatra			Surgical Department, Martyr Dr. Khalil Suleiman Governmental Hospital	Jenin, West Bank, Palestine	Collaborator		
Fawzi Hesham	Yasin			Surgical Department, Martyr Dr. Khalil Suleiman Governmental Hospital	Jenin, West Bank, Palestine	Site lead and collaborator		
Reem J.	Saad		0000-0003-3647-7276	General Surgery Department, Palestine Medical Complex	Ramallah, West Bank, Palestine	Site lead and collaborator		
Abdellatif	Khader		0000-0003-0318-1348	General Surgery Department, Palestine Medical Complex	Ramallah, West Bank, Palestine	Collaborator		
Reema A.	Hussein		0000-0001-7910-3472	General Surgery Department, Nasser Medical Complex	Khan Younis, Gaza Strip, Palestine	Collaborator		
Ameer A.	Helles		0000-0001-8972-0546	General Surgery Department, Nasser Medical Complex	Khan Younis, Gaza Strip, Palestine	Site lead and collaborator		
Ruba S.	Ismail		0000-0002-6278-4520	General Surgery Department, Nasser Medical Complex	Khan Younis, Gaza Strip, Palestine	Collaborator		
Mustafa A.	Abu Jayyab			General Surgery Department, Nasser Medical Complex	Khan Younis, Gaza Strip, Palestine	Site lead and collaborator		
Mohammad	Hasson			Rafidia Surgical Hospital	Nablus, West Bank, Palestine	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Ana	Povo		0000-0003-4060-2084	Serviço de Cirurgia Geral de Ambulatório, Centro Hospitalar Universitário de Santo António	Porto, Portugal	National/state lead (Portugal), site lead	Regional/National Lead Subgroup	
Cláudio	Silva		0000-0001-8892-7190	Serviço de Cirurgia Geral de Ambulatório, Centro Hospitalar Universitário de Santo António	Porto, Portugal	Collaborator		
Mariana	Ginestal		0000-0002-1952-3923	Serviço de Cirurgia Geral de Ambulatório, Centro Hospitalar Universitário de Santo António	Porto, Portugal	Collaborator		
Ionut	Negoi		0000-0002-6950-9599	General Surgery Department, Emergency Hospital of Bucharest	Bucharest, Romania	National/state lead (Romania), site lead	Regional/National Lead Subgroup	
Valentina M.	Negoita		0000-0002-9936-5047	General Surgery Department, Emergency Hospital of Bucharest	Bucharest, Romania	Collaborator		
Tamás	Talpai			Department of Surgery, Timiș County Emergency Clinical Hospital	Timișoara, Romania	Site lead and collaborator		
Cătălin-Alexandru	Pîrvu			Department of Surgery, Timiș County Emergency Clinical Hospital	Timișoara, Romania	Collaborator		
Stelian	Pantea			Department of Surgery, Timiș County Emergency Clinical Hospital	Timișoara, Romania	Collaborator		
Ruslan	Menzulin		0000-0003-3924-3053	Surgical Oncology Department, Medsi Clinic Otradnoye village, 2/1 Krasnogorsk	Krasnogorsk, Russian Federation	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Alexey	Yanishev		0000-0003-3050-2282	Department of General, Operative Surgery and Topographic Anatomy, Privolzhsky Research Medical University	Nizhniy Novgorod, Russian Federation	National/state lead (Russia), site lead	Regional/National Lead Subgroup	
Andrey	Bazaev		0000-0002-4797-9768	Department of General, Operative Surgery and Topographic Anatomy, Privolzhsky Research Medical University	Nizhniy Novgorod, Russian Federation	Collaborator		
Natalia	Chubukova		0000-0003-2572-6425	Department of General, Operative Surgery and Topographic Anatomy, Privolzhsky Research Medical University	Nizhniy Novgorod, Russian Federation	Collaborator		
Maxim	Bagrjancev		0000-0003-2230-9431	Department of General, Operative Surgery and Topographic Anatomy, Privolzhsky Research Medical University	Nizhniy Novgorod, Russian Federation	Collaborator		
Maxim	Ryabkov		0000-0001-5740-9366	Department of General, Operative Surgery and Topographic Anatomy, Privolzhsky Research Medical University	Nizhniy Novgorod, Russian Federation	Collaborator		
Alexander	Abelevich		0000-0001-6015-4974	Department of General, Operative Surgery and Topographic Anatomy, Privolzhsky Research Medical University	Nizhniy Novgorod, Russian Federation	Collaborator		
Anastastia	Novikova			Department of Surgery, St. Petersburg State University Hospital	St. Petersburg, Russian Federation	Site lead and collaborator		
Reham J.M.	Saeed		0000-0003-3516-6839	Department of General Surgery, Yonbu General Hospital	Yonbu, Saudi Arabia	National/state lead (Saudi Arabia), site lead	Regional/National Lead Subgroup	

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Tarek M.	El-Mansoury		0000-0003-1298-269X	Department of General Surgery, Yonbu General Hospital	Yonbu, Saudi Arabia	Collaborator		
Amer M.A.	Khogaly		0000-0001-6205-5507	Department of General Surgery, Yonbu General Hospital	Yonbu, Saudi Arabia	Collaborator		
Danijel	Galun		0000-0002-2262-8726	HPB Department, Clinic for Digestive Surgery	Belgrade, Serbia	Collaborator		
Marko	Zivanovic		0000-0001-8970-0780	HPB Department, Clinic for Digestive Surgery	Belgrade, Serbia	Site lead and collaborator		
Monica	Serrano-Navidad		0000-0001-8165-744X	Servei de Cirurgia General i de l'Aparell Digestiu Hospital de Viladecans	Barcelona, Spain	National/state lead (Spain), site lead	Regional/National Lead Subgroup	
Aitor	Landaluce-Olavarria		0000-0002-8631-0151	Department of General Surgery. Alfredo Espinosa Urduliz Hospital	Osakidetza, Basque Country, Spain	Site lead and collaborator		
Begoña	Estraviz-Mateos		0000-0002-5687-7667	Department of General Surgery. Alfredo Espinosa Urduliz Hospital	Osakidetza, Basque Country, Spain	Collaborator		
Aitor	Sainz-Lete		0000-0003-2215-0870	Department of General Surgery. Alfredo Espinosa Urduliz Hospital	Osakidetza, Basque Country, Spain	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Melania	Gonzalez-De Miguel		0000-0002-5466-9469	Department of General Surgery. Alfredo Espinosa Urduliz Hospital	Osakidetza, Basque Country, Spain	Collaborator		
Julio	Zevallos-Quiroz		0000-0003-4543-7487	Department of General Surgery. Alfredo Espinosa Urduliz Hospital	Osakidetza, Basque Country, Spain	Collaborator		
Alba	Vázquez-Melero		0000-0001-9606-5180	Hospital Universitario Araba	Araba, Spain	Site lead and collaborator		
María	Sánchez-Rubio		0000-0003-3193-6840	Hospital Universitario Araba	Araba, Spain	Collaborator		
Imanol	Herrero López		0000-0001-5029-528X	Hospital Universitario Araba	Araba, Spain	Collaborator		
David	García López de Goicoechea		0000-0003-2589-8534	Hospital Universitario Araba	Araba, Spain	Collaborator		
Maite	Camuera González		0000-0001-6623-5513	Hospital Universitario Araba	Araba, Spain	Collaborator		
Pablo	Helguera Martínez		0000-0001-5827-1039	Hospital Universitario Araba	Araba, Spain	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
María	Balluerca Alba		0000-0002-9679-7709	Hospital Universitario Araba	Araba, Spain	Collaborator		
Patricia	Paunero Vázquez		0000-0002-6641-0956	Hospital Universitario Araba	Araba, Spain	Collaborator		
Isami	Soeda Seminario		0000-0001-6713-4191	Hospital Universitario Araba	Araba, Spain	Collaborator		
Fernando	Mendoza Moreno			Department of Surgery, Hospital Universitario Príncipe de Asturias	Madrid, Spain	Site lead and collaborator		
Belén	Matías-García			Department of Surgery, Hospital Universitario Príncipe de Asturias	Madrid, Spain	Collaborator		
Ricardo	Alvarado-Hurtado			Department of Surgery, Hospital Universitario Príncipe de Asturias	Madrid, Spain	Collaborator		
Sonia	Soto-Schütte			Department of Surgery, Hospital Universitario Príncipe de Asturias	Madrid, Spain	Collaborator		
Marta	Alberich Prats		0000-0002-1897-1097	Department of General Surgery, Bellvitge University Hospital	Barcelona, Spain	Site lead and collaborator		
Zoilo	Madrazo González		0000-0001-8923-9808	Department of General Surgery, Bellvitge University Hospital	Barcelona, Spain	Collaborator		
Jaime	López Borao		0000-0001-6195-0702	Department of General Surgery, Bellvitge University Hospital	Barcelona, Spain	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Albert	Sueiras Gil		0000-0001-6151-138X	Servei de Cirurgia General i de l'Aparell Digestiu, Hospital de Viladecans	Barcelona, Spain	Collaborator		
Silvia	Martin Santos		0000-0002-1914-195X	Servei de Cirurgia General i de l'Aparell Digestiu, Hospital de Viladecans	Barcelona, Spain	Collaborator		
Marta	Gil Barrionuevo		0000-0002-6333-1400	Servei de Cirurgia General i de l'Aparell Digestiu, Hospital de Viladecans	Barcelona, Spain	Collaborator		
Gerardo	Rodriguez-Leon		0000-0003-0043-985X	Servei de Cirurgia General i de l'Aparell Digestiu, Hospital de Viladecans	Barcelona, Spain	Collaborator		
Josep	Vallet Fernandez		0000-0003-2527-1301	Servei de Cirurgia General i de l'Aparell Digestiu, Hospital de Viladecans	Barcelona, Spain	Collaborator		
Carles	Ortiz Rodriguez		0000-0003-0708-4756	Servei de Cirurgia General i de l'Aparell Digestiu, Hospital de Viladecans	Barcelona, Spain	Collaborator		
Ramiro	Hevia Falú		0000-0002-5976-4692	Servei de Cirurgia General i de l'Aparell Digestiu, Hospital de Viladecans	Barcelona, Spain	Collaborator		
Vicente	Gil Gomez		0000-0003-2611-6063	Servei de Cirurgia General i de l'Aparell Digestiu, Hospital de Viladecans	Barcelona, Spain	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Alex	Biel Arrufat		0000-0001-7820-1986	Servei de Cirurgia General i de l'Aparell Digestiu, Hospital de Viladecans	Barcelona, Spain	Collaborator		
Ana	Alberca Páramo		0000-0003-4662-2676	Cirugía General y Aparato Digestivo, Complejo Hospitalario de Jaén	Jaén, Spain	Site lead and collaborator		
Eva	Antonaya Rubia		0000-0003-1367-3899	Cirugía General y Aparato Digestivo, Complejo Hospitalario de Jaén	Jaén, Spain	Collaborator		
María A.	Rodríguez Cano		0000-0001-7847-6701	Cirugía General y Aparato Digestivo, Complejo Hospitalario de Jaén	Jaén, Spain	Collaborator		
Piedad	Ruíz Frías		0000-0001-7077-6013	Cirugía General y Aparato Digestivo, Complejo Hospitalario de Jaén	Jaén, Spain	Collaborator		
Sara	Gortázar de las Casas		0000-0002-5342-2907	Department of General and Digestive Surgery, University Hospital La Paz	Madrid, Spain	Site lead and collaborator		
Federico	Del Castillo Díez		0000-0003-1576-142X	Department of General and Digestive Surgery, University Hospital La Paz	Madrid, Spain	Collaborator		
Jenny	Guevara Martínez		0000-0001-9158-1610	Department of General and Digestive Surgery, University Hospital La Paz	Madrid, Spain	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Fernando	Prieto La Noire		0000-0003-3488-0627	Department of General and Digestive Surgery, University Hospital La Paz	Madrid, Spain	Collaborator		
Nuria	Chavarrías Torija		0000-0003-3189-6041	Department of General and Digestive Surgery, University Hospital La Paz	Madrid, Spain	Collaborator		
Santiago	Valderrabano Gonzalez		0000-0002-6941-7221	Department of General and Digestive Surgery, University Hospital La Paz	Madrid, Spain	Collaborator		
María	Heras Garceau		0000-0003-0633-5293	Department of General and Digestive Surgery, University Hospital La Paz	Madrid, Spain	Collaborator		
Jaime	Otero de Pablos		0000-0001-8819-6383	Department of General and Digestive Surgery, Hospital Clinico San Carlos	San Carlos, Spain	Site lead and collaborator		
Antonio	Ramos Bonilla		0000-0002-3076-4218	Department of General and Digestive Surgery, Hospital Universitario Severo Ochoa	Madrid, Spain	Site lead and collaborator		
Diego T.	Enjuto Martínez		0000-0001-7698-7284	Department of General and Digestive Surgery, Hospital Universitario Severo Ochoa	Madrid, Spain	Collaborator		
Lorena	Rodríguez Gómez		0000-0002-1468-5640	Department of General and Digestive Surgery, Hospital Universitario Severo Ochoa	Madrid, Spain	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Patricia	Diaz Peña		0000-0003-4435-8226	Department of General and Digestive Surgery, Hospital Universitario Severo Ochoa	Madrid, Spain	Collaborator		
Judit	Gonzalez Guerreiro		000-0002-6499-6199	Department of General and Digestive Surgery, Hospital Universitario Severo Ochoa	Madrid, Spain	Collaborator		
Iria	Cervera Celdrán		0000-0002-1154-1238	Department of General and Digestive Surgery, Hospital Universitario Severo Ochoa	Madrid, Spain	Collaborator		
Elima	Cagigal Ortega		0000-0003-0668-6376	Department of General and Digestive Surgery, Hospital Universitario Severo Ochoa	Madrid, Spain	Collaborator		
Antonio	García Domínguez		0000-0003-4501-1259	Department of General and Digestive Surgery, Hospital Universitario Severo Ochoa	Madrid, Spain	Collaborator		
Ana	Alvarez Cuiñas		0000-0003-4828-4949	Department of General and Digestive Surgery, Hospital Universitario Severo Ochoa	Madrid, Spain	Collaborator		
Carla	Soldevila-Verdeguer		0000-0002-8893-1381	Department of General and Digestive Surgery, Hospital Universitario Son Espases	Palma, Spain	Site lead and collaborator		
Laura	Fernández-Vega		0000-0002-1998-5976	Department of General and Digestive Surgery, Hospital Universitario Son Espases	Palma, Spain	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Naila	Pagès-Valle		0000-0003-0898-9303	General Surgery Department Hospital Universitario Son Llàtzer Carretera de Manacor Palma de Mallorca	Palma de Mallorca, Spain	Site lead and collaborator		
Alejandro	Coello-González		0000-0003-0609-0353	Urology Department, Hospital Universitario Son Llàtzer	Palma de Mallorca, Spain	Collaborator		
Enrique	Colás-Ruiz		0000-0001-8821-2531	General Surgery Department Hospital Universitario Son Llàtzer Carretera de Manacor Palma de Mallorca	Palma de Mallorca, Spain	Collaborator		
Weerakkodige Mithun Chamindaka	Alwis		0000-0002-2740-9450	Department of Surgery, District General Hospital Chilaw	Putlam District, Sri Lanka	Collaborator		
Rathnayake Mudhiyanselage Dulanee	Karunarathne		0000-0002-4297-5573	Department of Surgery, District General Hospital Chilaw	Putlam District, Sri Lanka	Collaborator		
Ginimal Bandaralage Kavinda Deshapriya	Bandara		0000-0002-6869-8017	Department of Surgery, District General Hospital Chilaw	Putlam District, Sri Lanka	Collaborator		
Vitharanage Srimantha Dewsiri	Rodrigo		0000-0003-2517-4798	Department of Surgery, District General Hospital Chilaw	Putlam District, Sri Lanka	Collaborator		
Umesh	Jayarajah		0000-0002-0398-5197	Department of Surgery, District General Hospital Chilaw	Putlam District, Sri Lanka	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Salaheddin M.	Abdulhamid		0000-0002-9998-741X	Faculty of Medicine, University of Science and Technology	Omdurman, Sudan	National/state lead (Sudan), site lead	Regional/National Lead Subgroup	
Fares Kh.	Almokdad		0000-0003-2936-2219	Faculty of Medicine, University of Science and Technology	Omdurman, Sudan	Collaborator		
Alrayah E.	Senhuri		0000-0003-2019-6250	Faculty of Medicine, University of Science and Technology	Omdurman, Sudan	Collaborator		
Weaam M.	Abdullah		0000-0001-6899-5508	Faculty of Medicine, University of Science and Technology	Omdurman, Sudan	Collaborator		
Elharith H.	Abdelwahid		0000-0001-8273-3870	Faculty of Medicine, University of Science and Technology	Omdurman, Sudan	Collaborator		
Alhaj O.	Idris		0000-0003-1366-8133	Faculty of Medicine, University of Science and Technology	Omdurman, Sudan	Collaborator		
Sami	Galal-Eldin		0000-0003-1883-3150	Department of Surgery, East Nile Hospital	Khartoum, Sudan	Site lead and collaborator		
Hytham K.S.	Hamid		0000-0001-8068-0154	Department of Surgery, East Nile Hospital	Khartoum, Sudan	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Alaa M.E.	Mohammed		0000-0001-6814-2679	Department of Surgery, East Nile Hospital	Khartoum, Sudan	Collaborator		
Ahmed M.	Ibrahim		0000-0001-5063-2637	Department of Surgery, Gadarif Teaching Hospital	Al Gadarif, Sudan	Site lead and collaborator		
Samar G.	Ahmed		0000-0002-6453-2570	Department of Surgery, Gadarif Teaching Hospital	Al Gadarif, Sudan	Collaborator		
Osama S.	Osman		0000-0003-0308-4994	Department of Surgery, Gadarif Teaching Hospital	Al Gadarif, Sudan	Collaborator		
Mohammad	El Tahier Abdalla Omer			Department of Surgery, Gadarif Teaching Hospital	Al Gadarif, Sudan	Site lead and collaborator		
Fthelrahman M.	Toum			Department of Surgery, Kassala Military Hospital	Kassala State, Sudan	Site lead and collaborator		
Fatima	Mohammed Sabir		0000-0001-6471-5708	Department of Surgery, Kassala Military Hospital	Kassala State, Sudan	Site lead and collaborator		
Abdulhafiz	Yaghoub Ali		0000-0001-7443-2226	Department of Surgery, Kassala Military Hospital	Kassala State, Sudan	Collaborator		
Abdelfatah A.	Abdelmageed		0000-0002-2311-8146	Surgical Department, Ibrahim Malik Teaching Hospital	Khartoum, Sudan	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Ashraf	Khalafalla		0000-0002-5542-8552	Surgical Department, Ibrahim Malik Teaching Hospital	Khartoum, Sudan	Collaborator		
Luden Saif Aldawla	Hassan		0000-0002-3183-6332	Surgical Department, Ibrahim Malik Teaching Hospital	Khartoum, Sudan	Collaborator		
Mai D.	Mahmoud		0000000341386352	School of Medicine, University of Khartoum	Khartoum, Sudan	Site lead and collaborator		
Mugahid A.	Salih		0000000230776403	School of Medicine, University of Khartoum	Khartoum, Sudan	Collaborator		
Alaa	Hamdan		0000-0002-4361-1114	Department of General Surgery, Tishreen University Hospital	Latakia, Syria	National/state lead (Syria), site lead	Regional/National Lead Subgroup	
Mazen	Mohammad		0000-0003-1944-3867	Department of Surgery, Abd Al Wahab Agha Hospital	Aleppo, Syria	Collaborator		
Mohamad	Al Shareeda		0000-0001-5217-3454	Department of Surgery, Abd Al Wahab Agha Hospital	Aleppo, Syria	Collaborator		
Mohammad Baraa	Otaky		0000-0003-1944-3867	Department of Surgery, Abd Al Wahab Agha Hospital	Aleppo, Syria	Collaborator		
Ali	Nashed		0000-0002-9965-0235	Department of Surgery, Abd Al Wahab Agha Hospital	Aleppo, Syria	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Hussein	Zayat		0000-0003-0722-1060	Department of Surgery, Abd Al Wahab Agha Hospital	Aleppo, Syria	Site lead and collaborator		
Mohammad	Aloulou		0000-0003-1825-1900	Department of Surgery, Aleppo Private Hospital	Aleppo, Syria	Site lead and collaborator		
Mohamed H.	Alsmail		0000-0001-8595-031X	Department of Surgery, Aleppo Private Hospital	Aleppo, Syria	Collaborator		
Fatima	Sawas		0000-0003-0594-2729	Department of Surgery, Aleppo Private Hospital	Aleppo, Syria	Collaborator		
Rafah	Alghareeb		0000-0003-1920-4292	Department of Surgery, Aleppo Private Hospital	Aleppo, Syria	Collaborator		
Aghyad	Kudra Danial		0000-0003-1980-5418	Department of Surgery, Aleppo Private Hospital	Aleppo, Syria	Collaborator		
Mohammad A.	Abdullah		0000-0002-0231-5319	Department of Surgery, Aleppo Private Hospital	Aleppo, Syria	Collaborator		
Khaled	Krad		0000-0003-4658-717X	Department of Surgery, Aleppo Private Hospital	Aleppo, Syria	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Ruqaya	Masri		0000-0003-4538-0353	Department of Surgery, Aleppo University Hospital	Aleppo, Syria	Site lead and collaborator		
Omar	Alannaz		0000-0003-0344-9148	Department of Surgery, Aleppo University Hospital	Aleppo, Syria	Collaborator		
M.Yasser	Halwani		0000-0003-4901-1379	Department of Surgery, Aleppo University Hospital	Aleppo, Syria	Collaborator		
Mohammad Maen	Ghannam		0000-0002-6917-6675	Department of Surgery, Aleppo University Hospital	Aleppo, Syria	Collaborator		
Ranim	Kazzaz		0000-0001-9851-9262	Department of Surgery, Aleppo University Hospital	Aleppo, Syria	Collaborator		
Shergal	Tammo		0000-0002-5566-1661	Department of Surgery, Aleppo University Hospital	Aleppo, Syria	Collaborator		
Ahmad	Ghazal		0000-0002-5032-2839	Department of Surgery, Aleppo University Hospital	Aleppo, Syria	Collaborator		
Madian	Alabad		0000-0003-3067-1262	Department of Surgery, Aleppo University Hospital	Aleppo, Syria	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Hasan	Alhasan		0000-0001-5986-7838	Department of Surgery, Aleppo University Hospital	Aleppo, Syria	Collaborator		
Ahmad	Alhaj		0000-0002-6573-5265	Department of Surgery, Aleppo University Hospital	Aleppo, Syria	Collaborator		
Ahmad	Aljaber		0000-0001-8034-6527	Department of Surgery, Aleppo University Hospital	Aleppo, Syria	Collaborator		
Bakri T.	Jarkas		0000-0001-8754-1587	Department of Surgery, Aleppo University Hospital	Aleppo, Syria	Collaborator		
Habib	Olaisheh		0000-0002-6172-8789	Department of Surgery, Almouwasat Unversity Hospital	Damascus, Syria	Site lead and collaborator		
Bassam	Hassan		0000-0003-1626-2032	Department of Surgery, Almouwasat Unversity Hospital	Damascus, Syria	Collaborator		
Ahmad Amir H.	Kayali		0000-0002-6346-2531	Department of Surgery, Al-Shahbaa Private Hospital	Aleppo, Syria	Site lead and collaborator		
Mohannad	Nasani		0000-0001-5093-8986	Department of Surgery, Al-Shahbaa Private Hospital	Aleppo, Syria	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Hasan F.	Kayali		0000-0002-3460-9397	Department of Surgery, Al-Shahbaa Private Hospital	Aleppo, Syria	Collaborator		
Ziad	Alahmad		0000-0003-3703-3685	Department of Surgery, Al-Shahbaa Private Hospital	Aleppo, Syria	Collaborator		
Khaled	Arnaout		0000-0003-4063-3390	Department of Surgery, Al-Shahbaa Private Hospital	Aleppo, Syria	Collaborator		
Aya A.N.	Laila		0000-0001-8397-6137	Faculty of Medicine, Tishreen University	Latakia, Syria	Site lead and collaborator		
Kamal	Zalf		0000-0001-9366-4460	Department Of General Surgery, National Hospital Of Jableh "Martyr Ibrahim Naama Hospital"	Latakia, Syria	Collaborator		
Hussain	Hasson		0000-0003-2967-5645	Department Of General Surgery, National Hospital Of Jableh "Martyr Ibrahim Naama Hospital"	Latakia, Syria	Collaborator		
Shant N.	Apelian		0000-0003-3409-5442	Tishreen University General Surgery Department, National Hospital of Latakia	Latakia, Syria	Site lead and collaborator		
Hawazen A.	Makhluf		0000-0002-9743-5558	Damascus University, General Surgery Department, National Hospital of Latakia	Latakia, Syria	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Fadwa F.	Ibraheem		0000-0002-9359-1369	Al-Baath University General Surgery Department, National Hospital of Latakia	Latakia, Syria	Collaborator		
Ahmad Y.	Arnaout		0000-0002-1254-6647	Department of Surgery, St. Louis Hospital	Aleppo, Syria	Site lead and collaborator		
Hamza	Ibrahim		0000-0002-5619-0267	Department of Surgery, St. Louis Hospital	Aleppo, Syria	Collaborator		
Mohammad	Sharifa		0000-0002-5988-8572	Department of Surgery, St. Louis Hospital	Aleppo, Syria	Collaborator		
Samer	Nastah		0000-0002-9146-0795	Department of Surgery, St. Louis Hospital	Aleppo, Syria	Collaborator		
Mohammed A.	Zayat		0000-0001-5639-4609	Department of Surgery, St. Louis Hospital	Aleppo, Syria	Collaborator		
Ahmad	Tarky Alhashash		0000-0003-3494-7836	Department of Surgery, St. Louis Hospital	Aleppo, Syria	Collaborator		
Dani S.	Konaizeh		0000-0001-7751-3638	General Surgery Department, Modern Medicine Hospital	Tartus, Syria	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Zuhair	Rostum		0000-0002-6805-8626	General Surgery Department, Modern Medicine Hospital	Tartus, Syria	Collaborator		
Hasan Y.	Ahmad		0000-0002-5630-7760	General Surgery Department, Modern Medicine Hospital	Tartus, Syria	Collaborator		
Fater	Aliskander		0000-0001-5332-1703	Department of General Surgery, Tishreen University Hospital	Latakia, Syria	Collaborator		
Ahmad	Saad			Department of General Surgery, Tishreen University Hospital	Latakia, Syria	Collaborator		
Arda	Isik		0000-0001-9493-4055	Department of General Surgery, Erzincan Binali Yıldırım University, Faculty of Medicine, Mengücekgazi Research and Training Hospital	Erzincan, Türkiye	National/state lead (Türkiye), site lead	Regional/National Lead Subgroup	
Ufuk	Memis		0000-0003-3393-3301	Department of General Surgery, Erzincan Binali Yıldırım University, Faculty of Medicine, Mengücekgazi Research and Training Hospital	Erzincan, Türkiye	Collaborator		
Saniye	Salih			Karadeniz Technical University	Karadeniz, Türkiye	Site lead and collaborator		
Kemal Tolga	Saracoglu			Health Sciences University Kartal Dr. Lutfi Kirdar City Hospital	Istanbul, Türkiye	Site lead and collaborator		
Ummahan Dalkilinc	Hokenek			Health Sciences University Kartal Dr. Lutfi Kirdar City Hospital	Istanbul, Türkiye	Collaborator		
Ozan Can	Tatar		0000-0002-9046-7362	General Surgery Department, Kocaeli University Teaching Hospital	Kocaeli, Türkiye	Site lead and collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Syed Faraz Ali	Shah		0000-0003-0785-0203	General Surgery Department, Kocaeli University Teaching Hospital	Kocaeli, Türkiye	Collaborator		
Nuh Zafer	Cantürk		0000-0002-0042-9742	General Surgery Department, Kocaeli University Teaching Hospital	Kocaeli, Türkiye	Collaborator		
Enes	Şahin		0000-0003-3777-8468	General Surgery Department, Kocaeli University Teaching Hospital	Kocaeli, Türkiye	Collaborator		
Sertaç Ata	Güler		0000-0003-1616-9436	General Surgery Department, Kocaeli University Teaching Hospital	Kocaeli, Türkiye	Collaborator		
Turgay	Şimşek		0000-0002-5733-6301	General Surgery Department, Kocaeli University Teaching Hospital	Kocaeli, Türkiye	Collaborator		
Cem E.	Guldogan		0000-0003-0634-5619	Department of General Surgery, Liv Hospital	Ankara, Türkiye	Site lead and collaborator		
Emre	Gundogdu		0000-0002-2756-1372	Department of General Surgery, Liv Hospital	Ankara, Türkiye	Collaborator		
Mahir M.	Ozmen		0000-0003-0649-0111	Department of General Surgery, Liv Hospital	Ankara, Türkiye	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Tevfik Kıvılcım	Uprak		0000-0002-6480-7431	General Surgery Department, Marmara University Faculty of Medicine	Istanbul, Türkiye	Site lead and collaborator		
Melike Zeynep	Can Şahin		0000-0003-4027-8034	General Surgery Department, Marmara University Faculty of Medicine	Istanbul, Türkiye	Site lead and collaborator		
Semra	Demirli Atici		0000-0002-8287-067X	Department of General Surgery, University of Health Sciences, Tepecik Training and Research Hospital	Izmir, Türkiye	Site lead and collaborator		
Kenan	Teker		0000-0003-2466-7435	Department of General Surgery, University of Health Sciences, Tepecik Training and Research Hospital	Izmir, Türkiye	Collaborator		
Ahmed	Aktas			Bursa Uludağ University School of Medicine	Bursa, Türkiye	Site lead and collaborator		
Javed	Latif		0000000289936547	Department of Pancreatico-biliary and Advanced Laparoscopic Surgery, University Hospitals of Derby & Burton	Derby, United Kingdom	National/state lead (UK), site lead	Regional/National Lead Subgroup	
Frank	McDermott		0000-0002-4891-1191	Department of Colorectal Surgery, Royal Devon & Exeter NHS Foundation Trust	Exeter, United Kingdom	Site lead and collaborator	Trial Management and Writing Subgroups	
Hans	Lederhuber		0000-0002-9786-8054	Department of Colorectal Surgery, Royal Devon & Exeter NHS Foundation Trust	Exeter, United Kingdom	Site lead and collaborator		
Venla	Kantola		0000-0002-4668-7915	Department of Colorectal Surgery, Royal Devon & Exeter NHS Foundation Trust	Exeter, United Kingdom	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Samantha	Muse		0000-0002-0383-3521	Department of Colorectal Surgery, Royal Devon & Exeter NHS Foundation Trust	Exeter, United Kingdom	Collaborator		
Nasir	Jaralla		0000-0002-9653-7587	Department of Colorectal Surgery, Royal Devon & Exeter NHS Foundation Trust	Exeter, United Kingdom	Collaborator		
Dorina	Roy		0000-0001-5303-6304	Department of General Surgery, Causeway Hospital	Coleraine, Northern Ireland, United Kingdom	Site lead and collaborator		
Alison	McCoubrey		0000-0003-3421-6996	Department of General Surgery, Causeway Hospital	Coleraine, Northern Ireland, United Kingdom	Collaborator		
Azel	Botes			Aneurin Bevan University Health Board	Gwent, Wales	Site lead and collaborator		
Alexander	Booth		0000-0003-3676-593X	Department of Surgery, Medical University of South Carolina	Charleston, South Carolina, United States of America	Site lead and collaborator		
Colston	Edgerton		0000-0001-7658-6368	Department of Surgery, Medical University of South Carolina	Charleston, South Carolina, United States of America	Collaborator		
Fatima	Al-Eryani		0000-0003-0587-229X	Surgical Department, Al Gumhori Teaching Hospital	Sana'a, Yemen	National/state lead (Yemen), site lead	Regional/National Lead Subgroup	
Hamza	Al-Naggar		0000-0001-9836-8556	Department of General Surgery, Al-Thawra Modern General Hospital	Sana'a, Yemen	National/state lead (Yemen)	Regional/National Lead Subgroup	

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Salwa	Al-Eryani		0000-0002-2774-7601	Surgical Department, Al Gumhori Teaching Hospital	Sana'a, Yemen	Collaborator		
Ghadeer	AL-Wajeeh		0000-0002-9585-0010	Surgical Department, Al Gumhori Teaching Hospital	Sana'a, Yemen	Collaborator		
Khadega	Abotaleb		0000-0002-8775-8409	Surgical Department, Al Gumhori Teaching Hospital	Sana'a, Yemen	Collaborator		
Mohammed	Al-Shehari		0000-0003-1295-0620	Department of General Surgery, Al-Thawra Modern General Hospital	Sana'a, Yemen	Site lead and collaborator		
Hamza	Al-Naggar		0000-0001-9836-8556	Department of General Surgery, Al-Thawra Modern General Hospital	Sana'a, Yemen	Collaborator		
Sarah	Shream		0000-0001-8528-9170	Department of General Surgery, Al-Thawra Modern General Hospital	Sana'a, Yemen	Collaborator		
Ramzi	Alsayadi		0000-0002-2672-3464	Department of General Surgery, Al-Thawra Modern General Hospital	Sana'a, Yemen	Collaborator		
Shada	Alemad			Alkhamseen Hospital	Sana'a, Yemen	Site lead and collaborator		
Bushra Hussein	Alshaikh			Alkhamseen Hospital	Sana'a, Yemen	Collaborator		
Manal Jamal	Al-Dhaheri			Alkhamseen Hospital	Sana'a, Yemen	Collaborator		
Wadhah Ahmed	Al-Hajj Al-Fakih			Alkhamseen Hospital	Sana'a, Yemen	Collaborator		

Supplemental Online Content: Nonauthor Collaborators

*Indicates required information. Only first name, last name, and suffix will appear in PubMed.

***First Name and Middle Initial(s)**	***Last Name**	***Suffix (eg, Jr, III)**	ORCiD	Institution	Location (city, state/province, country)	Role or Contribution, eg, chair, principal investigator	Group (if more than 1 Group listed in the byline) and/or Subgroup (eg, Steering Committee)	
Khaled A.	Telha		0000-0002-4545-8299	Department of Urology, Ibn-Sena Hospital	Sana'a, Yemen	Collaborator		
Wail M.	AlQatta		0000-0003-3438-6290	Department of General Surgery, Ibn-Sena Hospital	Sana'a, Yemen	Collaborator		
Ghassan K.	Telha		0000-0002-7983-1362	Department of Urology, Ibn-Sena Hospital	Sana'a, Yemen	Site lead and collaborator		
Ali	Güner		0000-0001-7801-8081	Karadeniz Technical University School of Medicine	Trabzon, Turkey	Collaborator		