

Supplemental Table 1. Clinical information of the patients with gastrointestinal (GI) diseases

Characteristic	Total (n =241)	DTP (n = 120)	Appendix disease (n =73)	GI obstruction (n = 35)	Bowel necrosis (n = 7)	GI Bleeding (n = 6)
Age (years)	55.22 ± 18.37	58.50 ± 16.46	45.88 ± 18.75	63.17 ± 16.40	61.86 ± 18.91	49.17 ± 18.90
Sex						
Male	184 (76.35)	91 (75.83)	58 (79.45)	26 (74.29)	4 (57.14)	5 (83.33)
Female	57 (23.65)	29 (24.17)	15 (20.55)	9 (25.71)	3 (42.86)	1 (16.67)
ASA physical status class						
II - III	184 (76.35)	83 (69.17)	71 (97.26)	20 (57.14)	6 (85.71)	4 (66.67)
IV - V	57 (23.65)	37 (30.83)	2 (2.74)	15 (42.86)	1 (14.29)	2 (33.33)
Underlying conditions						
CHD	22 (9.13)	15 (12.50)	3 (4.11)	2 (5.71)	2 (28.57)	0 (0.00)
Hypertension	52 (21.58)	28 (23.33)	12 (16.44)	8 (22.86)	3 (42.86)	1 (16.67)
Diabetes	38 (15.77)	20 (16.67)	7 (9.59)	10 (28.57)	0 (0.00)	1 (16.67)
Preoperative SOFA	3.00 (2.00 - 4.00)	3.00 (2.00 - 4.00)	3.00 (2.00 - 3.00)	3.00 (2.00 - 3.50)	2.00 (2.00 - 3.50)	3.50 (3.00 - 4.75)
Postoperative SOFA	1.00 (0.00 - 3.00)	2.00 (0.00 - 3.00)	1.00 (0.00 - 2.00)	2.00 (1.00 - 3.50)	1.00 (1.00 - 3.00)	2.50 (1.25 - 3.00)
SOFA score difference	2.00 (0.00 - 2.00)	1.00 (0.00 - 2.00)	2.00 (1.00 - 3.00)	1.00 (0.00 - 2.00)	1.00 (0.50 - 1.00)	1.00 (0.00 - 2.75)
Sepsis shock	91 (37.76)	55 (45.83)	10 (13.70)	20 (57.14)	5 (71.43)	1 (16.67)
Malignancy	24 (9.96)	12 (10.00)	1 (1.37)	11 (31.43)	0 (0.00)	0 (0.00)
Anesthetic agents						
Propofol	227 (94.19)	111 (92.50)	71 (97.26)	34 (97.14)	5 (71.43)	6 (100.00)
Etomidate	22 (9.13)	14 (11.67)	2 (2.74)	4 (11.43)	2 (28.57)	0 (0.00)
Dexmedetomidine	29 (12.03)	16 (13.33)	5 (6.85)	4 (11.43)	3 (42.86)	1 (16.67)
Corticosteroids	146 (60.58)	79 (65.83)	39 (53.42)	19 (54.29)	5 (71.43)	4 (66.67)
Vasoactive agents						
Norepinephrine	58 (24.07)	37 (30.83)	3 (4.11)	13 (37.14)	3 (42.86)	2 (33.33)
Phenylephrine	81 (33.61)	50 (41.67)	7 (9.59)	19 (54.29)	3 (42.86)	2 (33.33)
Intraoperative blood loss (ml)	50.00 (20.00 - 100.00)	100.00 (20.00 - 200.00)	10.00 (0.00 - 30.00)	200.00 (100.00 - 300.00)	50.00 (50.00 - 75.00)	75.00 (35.00 - 100.00)
Lactate (mmol/L)	1.89 ± 1.61	2.14 ± 1.88	1.41 ± 0.67	1.92 ± 1.76	2.36 ± 2.39	2.03 ± 1.13
Surgical time (min)	120.00 (89.00 - 182.00)	123.50 (96.75 - 200.50)	80.00 (60.00 - 115.00)	173.00 (135.00 - 230.50)	140.00 (118.00 - 180.00)	189.50 (129.75 - 214.00)
ICU admission after surgery	161 (66.80)	102 (85.00)	17 (23.29)	31 (88.57)	7 (100.00)	4 (66.67)
Length of ICU stay (days)	4.49 (2.47 - 9.71)	4.61 (2.60 - 9.70)	2.55 (1.30 - 3.33)	7.78 (2.65 -10.61)	6.90 (2.56 - 20.62)	3.68 (3.05 - 8.59)
Length of hospital stay (days)	12.00 (6.00 - 22.00)	15.50 (10.00 - 24.25)	5.00 (3.00 - 7.00)	19.00 (11.50 - 27.00)	22.00 (10.00 - 29.50)	23.50 (13.00 - 28.00)
In-hospital deaths	23 (9.54)	15 (12.50)	0 (0.00)	5 (14.29)	3 (42.86)	0 (0.00)

Notes: Data presented as n (%), mean ± SD or median (IQR). Abbreviation: DTP, digestive tract perforation; ASA, American society of anesthesiologists; CHD, coronary heart disease; SOFA, Sequential Organ Failure Assessment score; ICU, intensive care unit.

Supplemental Table 2. Characteristics of patients with gastrointestinal (GI) diseases

Characteristic	Survival (n = 218)	Non-survival (n = 23)	P-Value
Age (years)	53.28 ± 17.94	73.65 ± 10.76	<0.001
Sex			<0.001
Male	173 (79.36)	11 (47.83)	
Female	45 (20.64)	12 (52.17)	
BMI	26.04 ± 2.86	26.47 ± 2.71	0.486
Obesity	72 (33.03)	10 (43.48)	0.314
ASA physical status class			0.019
II - III	171 (78.44)	13 (56.52)	
IV - V	47 (21.56)	10 (43.48)	
Underlying conditions			
CHD	15 (6.88)	7 (30.43)	<0.001
Hypertension	45 (20.64)	7 (30.43)	0.413
Diabetes	30 (13.76)	8 (34.78)	0.020
Renal dysfunction	9 (4.13)	1 (4.35)	1.000
Preoperative SOFA	3.00 (2.00 - 4.00)	3.00 (2.00 - 4.00)	0.082
Postoperative SOFA	1.00 (0.00 - 2.00)	3.00 (1.50 - 4.00)	0.001
SOFA score difference	2.00 (0.00 - 2.00)	1.00 (-0.50 - 2.00)	0.097
Preoperative diagnosis			
Sepsis shock	77 (35.32)	14 (60.87)	0.016
DTP	105 (48.17)	15 (65.22)	0.120
Appendix disease	73 (33.49)	0 (0.00)	<0.001
GI obstruction	30 (13.76)	5 (21.74)	0.471
Bowel necrosis	4 (1.83)	3 (13.04)	0.021
GI bleeding	6 (2.75)	0 (0.00)	1.000
Malignancy	18 (8.26)	6 (26.09)	0.019
Time from admission to surgery (hours)	4.57 (2.91 - 10.93)	5.52 (3.13 - 61.54)	0.449
ICU admission after surgery	138 (63.30)	23 (100.00)	<0.001
Length of ICU stay (days)	3.87 (2.46 - 9.37)	8.83 (3.73 - 17.32)	0.026
Length of hospital stay (days)	11.00 (6.00 - 21.75)	18.00 (11.50 - 23.50)	0.099
Anesthetic agents			
Propofol	208 (95.41)	19 (82.61)	0.043
Etomidate	16 (7.34)	6 (26.09)	0.010
Ketamine	3 (1.38)	0 (0.00)	1.000
Sevoflurane/Isoflurane/Desflurane	195 (89.45)	22 (95.65)	0.563
Dexmedetomidine	22 (10.09)	7 (30.43)	0.012
Corticosteroids	132 (60.55)	14 (60.87)	0.976
Vasoactive agents			
Norepinephrine	43 (19.72)	15 (65.22)	<0.001
Phenylephrine	70 (32.11)	11 (47.83)	0.129
Dopamine	21 (9.63)	3 (13.04)	0.878
Epinephrine	4 (1.83)	2 (8.70)	0.103
Intraoperative fluid therapy			
Total fluid input (ml/kg/h)	18.63 ± 8.51	23.36 ± 15.65	0.022

Crystalloid fluid input (ml/kg/h)	12.71 (8.53 - 16.91)	12.90 (8.80 - 19.71)	0.532
Colloid fluid input (ml/kg/h)	4.24 (0.00 - 6.73)	4.74 (3.81 - 7.77)	0.107
Intraoperative urine output (ml/kg/h)	1.91 (0.95 - 2.44)	0.85 (0.62 - 1.46)	0.004
Blood transfusion	43 (19.72)	8 (34.78)	0.158
Intraoperative blood loss (ml)	50.00 (10.00 - 100.00)	100.00 (50.00 - 200.00)	0.013
Intraoperative events			
Hypotension	45 (20.64)	7 (30.43)	0.784
The frequency of hypotension	4.00 (0.25 - 15.00)	2.00 (1.00 - 13.50)	0.909
Duration of MAP<60 mmHg (min)	5.00 (0.00 - 20.00)	15.00 (2.50 - 32.50)	0.069
Minimum MAP (mmHg)	55.34 (39.33 - 64.67)	51.00 (31.83 - 59.00)	0.053
Lactate (mmol/L)	1.81 ± 1.55	2.67 ± 2.00	0.014
L/A	0.04 (0.03 - 0.06)	0.06 (0.04 - 0.10)	<0.001
Type of surgery			0.090
Emergency surgery	165 (75.69)	21 (91.30)	
Elective surgery	53 (24.31)	2 (8.70)	
Surgical time (min)	118.00 (84.25 - 178.50)	140.00 (107.50 - 219.50)	0.026
Failure to extubate on the POD1	37 (16.97)	2 (8.70)	0.467
Use of vasoactive agents on the POD1	46 (21.10)	10 (43.48)	0.016
Urine output on the POD1 (ml/kg/h)	1.45 (1.12 - 1.69)	1.16 (0.89 - 1.46)	0.104
Preoperative biochemical parameters			
Creatinine (μmol/L)	96.05 (68.88 - 134.18)	115.00 (69.35 - 165.30)	0.509
Total bilirubin (μmol/L)	28.15 (16.43 - 41.00)	17.00 (10.95 - 29.95)	0.021
Albumin (g/L)	35.96 ± 7.45	29.96 ± 6.50	<0.001
Preoperative blood routine			
Platelet (×10 ⁹ /L)	169.50 (131.00 - 233.00)	147.00 (118.50 - 226.00)	0.474
Red blood cells (×10 ¹² /L)	4.46 (3.77 - 5.12)	3.89 (3.65 - 4.02)	0.007
Hemoglobin (g/L)	133.80 ± 31.31	116.22 ± 22.32	0.002
White blood cells (×10 ⁹ /L)	11.44 (6.33 - 17.10)	7.84 (4.95 - 12.63)	0.113
Neutrophils (×10 ⁹ /L)	9.74 (5.37 - 14.38)	6.25 (4.25 - 11.44)	0.091
Lymphocytes (×10 ⁹ /L)	0.74 (0.51 - 1.18)	0.54 (0.45 - 1.03)	0.153
Preoperative NLR	10.75 (6.77 - 18.78)	11.03 (7.69 - 15.80)	0.947
Preoperative PLR	226.08 (129.53 - 361.89)	250.41 (157.94 - 410.60)	0.388
Preoperative SII	1836.98 (1086.77 - 3355.31)	1621.15 (1049.03 - 3082.22)	0.596
Postoperative biochemical parameters			
Creatinine (μmol/L)	101.25 (68.38 - 108.95)	108.50 (79.30 - 160.15)	0.184
Total bilirubin (μmol/L)	21.35 (12.70 - 46.80)	19.00 (11.00 - 37.05)	0.476
Postoperative blood routine			
Platelet (×10 ⁹ /L)	151.00 (108.00 - 182.75)	124.00 (63.00 - 149.50)	0.023
Hemoglobin (g/L)	112.29 ± 22.93	101.61 ± 21.64	0.034
White blood cells (×10 ⁹ /L)	10.29 (6.74 - 13.59)	7.77 (3.33 - 14.14)	0.215
Neutrophils (×10 ⁹ /L)	9.20 (5.53 - 12.27)	6.85 (3.06 - 12.79)	0.214
Lymphocytes (×10 ⁹ /L)	0.60 (0.35 - 0.90)	0.42 (0.27 - 0.64)	0.038
Postoperative NLR	12.49 (10.24 - 22.03)	16.02 (7.93 - 29.55)	0.678
Postoperative PLR	217.94 (160.30 - 386.37)	327.73 (151.08 - 491.14)	0.335
Postoperative SII	1829.81 (1229.53 - 3239.83)	1718.00 (662.06 - 4196.52)	0.414

Notes: Data presented as n (%), mean $\pm$ SD or median (IQR). Abbreviation: BMI, body mass index; ASA, American society of anesthesiologists; CHD, coronary heart disease; SOFA, Sequential Organ Failure Assessment score; DTP, digestive tract perforation; ICU, intensive care unit; MAP, mean arterial pressure; L/A, lactate-to-albumin ratio; POD1, first postoperative day; NLR, neutrophil-to-lymphocyte ratio; PLR, platelet-to-lymphocyte ratio; SII, systemic immune-inflammation index.

Supplemental Table 3. Clinical information of the elderly patients

Characteristic	Non-elderly (n =266)	Elderly (n =210)	P-Value
Age (years)	43.97 ± 11.28	71.23 ± 7.93	<0.001
Sex			<0.001
Male	209 (78.57)	130 (61.90)	
Female	57 (21.43)	80 (38.10)	
ASA physical status class			0.326
II - III	197 (74.06)	147 (70.00)	
IV - V	69 (25.94)	63 (30.00)	
Underlying conditions	76 (28.57)	108 (51.43)	<0.001
CHD	9 (3.38)	29 (13.81)	<0.001
Hypertension	42 (15.79)	71 (33.81)	<0.001
Diabetes	29 (10.90)	49 (23.33)	<0.001
Preoperative SOFA	3.00 (2.00 - 4.00)	3.00 (2.00 - 4.00)	0.469
Postoperative SOFA	2.00 (1.00 - 3.00)	2.00 (0.25 - 3.00)	0.930
SOFA score difference	1.00 (0.00 - 2.00)	1.00 (0.00 - 2.00)	0.759
Preoperative diagnosis			
Sepsis shock	97 (36.47)	77 (36.67)	0.964
GI disease	134 (50.38)	107 (50.95)	0.901
Biliary disease	49 (18.42)	69 (32.86)	<0.001
Pancreatic disease	28 (10.53)	13 (6.19)	0.094
Malignancy	21 (7.89)	38 (18.10)	<0.001
Anesthetic agents			
Propofol	256 (96.24)	200 (95.24)	0.588
Sevoflurane/Isoflurane/Desflurane	235 (88.35)	172 (81.9)	0.047
Dexmedetomidine	24 (9.02)	22 (10.48)	0.594
Corticosteroids	158 (59.40)	111 (52.86)	0.153
Vasoactive agents	121 (45.49)	107 (50.95)	0.236
Norepinephrine	61 (22.93)	54 (25.71)	
Phenylephrine	86 (32.33)	81 (38.57)	
Intraoperative blood loss (ml)	100.00 (20.00 - 237.50)	50.00 (20.00 - 100.00)	0.020
Intraoperative events			
Hypotension	195 (73.31)	160 (76.19)	0.473
Minimum MAP (mmHg)	56.00 (38.08 - 64.58)	55.66 (40.08 - 64.92)	0.735
Lactate (mmol/L)	1.42 (1.00 - 1.78)	1.30 (0.90 - 1.80)	0.396
Surgical time (min)	140.00 (90.00 - 200.00)	124.50 (85.00 - 179.00)	0.053
ICU admission after surgery	164 (61.65)	138 (65.71)	0.361
Length of ICU stay (days)	4.49 (2.01 - 10.93)	4.07 (1.95 - 10.65)	0.912
Length of hospital stay (days)	15.00 (8.00 - 29.75)	14.50 (9.00 - 24.00)	0.616
In-hospital deaths	9 (3.38)	27 (12.86)	<0.001

Notes: Data presented as n (%), mean ± SD or median (IQR). Abbreviation: ASA, American society of anesthesiologists; CHD, coronary heart disease; SOFA, Sequential Organ Failure Assessment score; GI disease, gastrointestinal disease; MAP, mean arterial pressure; ICU, intensive care unit.

Supplemental Table 4. Characteristics of elderly patients

Characteristic	Survival (n = 183)	Non-survival (n = 27)	P-Value
Age (years)	70.75 ± 7.57	74.48 ± 9.59	0.063
Sex			0.249
Male	116 (63.39)	14 (51.85)	
Female	67 (36.61)	13 (48.15)	
BMI	24.65 ± 3.54	25.82 ± 2.84	0.062
Obesity	53 (28.96)	9 (33.33)	
ASA physical status class			0.079
II - III	132 (72.13)	15 (55.56)	
IV - V	51 (27.87)	12 (44.44)	
Underlying conditions			
CHD	22 (12.02)	7 (25.93)	0.098
Hypertension	64 (34.97)	7 (25.93)	0.354
Diabetes	39 (21.31)	10 (37.04)	0.071
Renal dysfunction	11 (6.01)	1 (3.70)	0.970
Preoperative SOFA	3.00 (2.00 - 4.00)	3.00 (2.50 - 5.00)	0.062
Postoperative SOFA	2.00 (0.00 - 3.00)	3.00 (2.00 - 4.00)	0.009
SOFA score difference	1.00 (0.00 - 2.00)	1.00 (0.00 - 2.00)	0.431
Preoperative diagnosis			
Sepsis shock	60 (32.79)	17 (62.96)	0.002
GI disease	85 (46.45)	22 (81.48)	<0.001
DTP	47 (25.68)	14 (51.85)	0.005
Appendix disease	19 (10.38)	0 (0.00)	0.163
GI obstruction	15 (8.20)	5 (18.52)	0.176
Bowel necrosis	2 (1.09)	3 (11.11)	0.016
GI bleeding	2 (1.09)	0 (0.00)	1.000
Biliary disease	66 (36.07)	3 (11.11)	0.010
Pancreatic disease	13 (7.10)	0 (0.00)	0.316
Trauma	2 (1.09)	0 (0.00)	1.000
Other disease	19 (10.38)	3 (11.11)	1.000
Malignancy	28 (15.30)	10 (37.04)	0.013
Time from admission to surgery (hours)	30.77 (4.14 - 137.14)	6.27 (3.60 - 93.92)	0.278
ICU admission after surgery	114 (62.30)	24 (88.89)	0.007
Length of ICU stay (days)	3.69 (1.87 - 9.70)	8.49 (2.69 - 12.76)	0.079
Length of hospital stay (days)	14.00 (9.00 - 24.00)	15.00 (10.00 - 23.00)	0.949
Anesthetic agents			
Propofol	177 (96.72)	23 (85.19)	0.032
Etomidate	7 (3.83)	6 (22.22)	0.001
Ketamine	2 (1.09)	0 (0.00)	1.000
Sevoflurane/Isoflurane/Desflurane	147 (80.33)	25 (92.59)	0.201
Dexmedetomidine	14 (7.65)	8 (29.63)	0.002
Corticosteroids	96 (52.46)	15 (55.56)	0.763
Vasoactive agents			
Norepinephrine	38 (20.77)	16 (59.26)	<0.001
Phenylephrine	67 (36.61)	14 (51.85)	0.129

Dopamine	23 (12.57)	2 (7.41)	0.649
Epinephrine	7 (3.83)	2 (7.41)	0.727
Intraoperative fluid therapy			
Total fluid input (ml/kg/h)	17.69 (11.82 - 24.03)	18.36 (13.28 - 26.22)	0.373
Crystalloid fluid input (ml/kg/h)	12.02 (8.55 - 17.40)	11.18 (8.20 - 17.91)	0.926
Colloid fluid input (ml/kg/h)	3.48 (0.00 - 5.82)	4.74 (3.81 - 6.90)	0.021
Intraoperative urine output (ml/kg/h)	2.09 (0.81 - 2.45)	1.24 (0.67 - 1.82)	0.063
Blood transfusion	26 (14.21)	8 (29.63)	0.080
Intraoperative blood loss (ml)	50.00 (10.00 - 100.00)	50.00 (50.00 - 200.00)	0.047
Intraoperative events			
Hypotension	139 (75.96)	21 (77.78)	0.836
The frequency of hypotension	6.00 (0.50 - 18.00)	2.00 (1.00 - 11.00)	0.263
Duration of MAP<60 mmHg (min)	5.00 (0.00 - 22.50)	10.00 (0.00 - 25.00)	0.391
Minimum MAP (mmHg)	55.32 ± 17.59	50.93 ± 14.68	0.218
Lactate (mmol/L)	1.30 (0.90 - 1.79)	1.69 (1.10 - 2.70)	0.037
L/A	0.04 (0.03 - 0.06)	0.05 (0.03 - 0.09)	0.005
Type of surgery			0.015
Emergency surgery	104 (56.83)	22 (81.48)	
Elective surgery	79 (43.17)	5 (18.52)	
Surgical time (min)	120.00 (80.00 - 175.00)	158.00 (107.50 - 213.50)	0.029
Failure to extubate on the POD1	26 (14.21)	2 (7.41)	0.505
Use of vasoactive agents on the POD1	48 (26.23)	10 (37.04)	0.241
Urine output on the POD1 (ml/kg/h)	1.45 (0.98 - 1.72)	1.16 (0.85 - 1.46)	0.147
Preoperative biochemical parameters			
Creatinine (μmol/L)	80.90 (60.15 - 123.15)	115.00 (67.65 - 165.30)	0.110
Total bilirubin (μmol/L)	34.60 (19.35 - 72.75)	20.60 (11.75 - 37.70)	0.053
Albumin (g/L)	33.71 ± 6.06	29.93 ± 6.11	0.003
Preoperative blood routine			
Platelet (×10 ⁹ /L)	166.00 (109.50 - 229.00)	131.00 (103.00 - 216.50)	0.301
Red blood cells (×10 ¹² /L)	4.09 (3.38 - 4.58)	3.86 (3.45 - 4.00)	0.172
Hemoglobin (g/L)	122.85 ± 28.06	115.33 ± 22.32	0.123
White blood cells (×10 ⁹ /L)	9.86 (5.95 - 14.11)	9.76 (4.95 - 15.59)	0.532
Neutrophils (×10 ⁹ /L)	8.21 (4.41 - 12.58)	6.25 (4.25 - 13.99)	0.606
Lymphocytes (×10 ⁹ /L)	0.77 (0.53 - 1.16)	0.54 (0.45 - 1.08)	0.193
Preoperative NLR	9.57 (5.59 - 20.00)	10.88 (7.69 - 16.16)	0.749
Preoperative PLR	210.78 (124.30 - 325.74)	234.62 (140.58 - 379.55)	0.786
Preoperative SII	1586.58 (736.70 - 3085.78)	1516.67 (735.90 - 3082.22)	0.704
Postoperative biochemical parameters			
Creatinine (μmol/L)	92.30 (62.25 - 108.95)	102.40 (72.95 - 160.15)	0.159
Total bilirubin (μmol/L)	27.60 (14.20 - 46.80)	21.10 (11.95 - 42.95)	0.421
Postoperative blood routine			
Platelet (×10 ⁹ /L)	155.00 (104.00 - 188.50)	124.00 (63.00 - 146.50)	0.013
Hemoglobin (g/L)	107.54 ± 22.50	98.41 ± 19.45	0.047
White blood cells (×10 ⁹ /L)	10.41 (6.86 - 13.88)	7.96 (3.72 - 14.45)	0.200
Neutrophils (×10 ⁹ /L)	9.16 (6.04 - 12.59)	7.26 (3.36 - 12.83)	0.208
Lymphocytes (×10 ⁹ /L)	0.65 (0.38 - 0.86)	0.47 (0.27 - 0.66)	0.051

Postoperative NLR	12.28 (9.98 - 23.49)	16.02 (7.93 - 26.08)	0.733
Postoperative PLR	216.10 (170.39 - 369.77)	316.05 (143.34 - 491.14)	0.396
Postoperative SII	1872.00 (1198.90 - 3322.77)	1798.45 (662.06 - 3516.49)	0.392

Notes: Data presented as n (%), mean ± SD or median (IQR). Abbreviation: BMI, body mass index; ASA, American society of anesthesiologists; CHD, coronary heart disease; SOFA, Sequential Organ Failure Assessment score; GI disease, gastrointestinal disease; DTP, digestive tract perforation; ICU, intensive care unit; MAP, mean arterial pressure; L/A, lactate-to-albumin ratio; POD1, first postoperative day; NLR, neutrophil-to-lymphocyte ratio; PLR, platelet-to-lymphocyte ratio; SII, systemic immune-inflammation index.

Supplemental Table 5. Clinical information of the patients with septic shock

Characteristic	Non-septic shock (n =302)	Septic shock (n =174)	P-Value
Age (years)	55.90 ± 16.44	56.17 ± 17.46	0.864
Sex			0.002
Male	230 (76.16)	109 (62.64)	
Female	72 (23.84)	65 (37.36)	
ASA physical status class			<0.001
II - III	253 (83.77)	91 (52.30)	
IV - V	49 (16.23)	83 (47.70)	
CHD	23 (7.62)	15 (8.62)	0.697
Preoperative SOFA	3.00 (2.00 - 3.00)	4.00 (3.00 - 6.00)	<0.001
Postoperative SOFA	2.00 (1.00 - 3.00)	2.00 (1.00 - 4.00)	0.037
SOFA score difference	0.87 ± 1.43	1.88 ± 1.53	<0.001
Preoperative diagnosis			
GI disease	150 (49.67)	91 (52.30)	0.580
DTP	65 (21.52)	55 (31.61)	0.015
Appendix disease	63 (20.86)	10 (5.75)	<0.001
Gastrointestinal obstruction	15 (4.97)	20 (11.49)	0.009
Bowel necrosis	2 (0.66)	5 (2.87)	0.125
Gastrointestinal bleeding	5 (1.66)	1 (0.57)	0.554
Biliary disease	96 (31.79)	22 (12.64)	<0.001
Pancreatic disease	18 (5.96)	23 (13.22)	0.007
Anesthetic agents			
Propofol	299 (99.01)	157 (90.23)	<0.001
Etomidate	4 (1.32)	22 (12.64)	<0.001
Sevoflurane/Isoflurane/Desflurane	250 (82.78)	157 (90.23)	0.026
Vasoactive agents	104 (34.44)	124 (71.26)	<0.001
Norepinephrine	32 (10.60)	83 (47.70)	<0.001
Phenylephrine	81 (26.82)	86 (49.43)	<0.001
Intraoperative events			
Hypotension	216 (71.52)	139 (79.89)	0.044
Minimum MAP (mmHg)	58.00 (38.41 - 67.00)	54.09 (39.75 - 61.00)	0.009
Lactate (mmol/L)	1.45 ± 1.06	2.52 ± 2.32	<0.001
Intraoperative urine output (ml/kg/h)	2.09 (1.07 - 2.37)	1.72 (0.72 - 2.81)	0.419
Surgical time (min)	121.00 (77.50 - 189.50)	150.00 (100.00 - 204.25)	0.006
Failure to extubate on the POD1	37 (12.25)	21 (12.07)	0.953
Use of vasoactive agents on the POD1	52 (17.22)	61 (35.06)	<0.001
Urine output on the POD1 (ml/kg/h)	1.45 (1.09 - 1.59)	1.45 (0.76 - 1.88)	0.559
ICU admission after surgery	155 (51.32)	147 (84.48)	<0.001
Length of ICU stay (days)	3.75 (1.97 - 8.63)	4.65 (2.00 - 13.65)	0.037
Length of hospital stay (days)	14.00 (8.00 - 23.82)	18.50 (10.00 - 31.75)	<0.001
In-hospital deaths	15 (4.97)	21 (12.07)	0.005

Notes: Data presented as n (%), mean ± SD or median (IQR). Abbreviation: ASA, American society of anesthesiologists; CHD, coronary heart disease; SOFA, Sequential Organ Failure Assessment score; GI disease, gastrointestinal disease; DTP, digestive tract perforation; MAP, mean arterial pressure; POD1, first postoperative day; ICU, intensive care unit.

Supplemental Table 6. Characteristics of patients with septic shock

Characteristic	Survival (n = 153)	Non-survival (n = 21)	P-Value
Age (years)	54.22 ± 16.80	70.43 ± 15.82	<0.001
Sex			0.013
Male	101 (66.01)	8 (38.10)	
Female	52 (33.99)	13 (61.90)	
BMI	24.89 ± 3.57	25.87 ± 5.43	0.276
Obesity	47 (30.72)	8 (38.10)	0.495
ASA physical status class			0.356
II - III	82 (53.59)	9 (42.86)	
IV - V	71 (46.41)	12 (57.14)	
Underlying conditions			
CHD	9 (5.88)	6 (28.57)	0.002
Hypertension	37 (24.18)	8 (38.10)	0.172
Diabetes	25 (16.34)	8 (38.10)	0.037
Renal dysfunction	12 (7.84)	2 (9.52)	1.000
Preoperative SOFA	4.00 (3.00 - 6.00)	4.00 (3.00 - 6.00)	0.499
Postoperative SOFA	2.00 (1.00 - 4.00)	3.00 (1.00 - 5.00)	0.130
SOFA score difference	2.00 (1.00 - 2.00)	2.00 (1.00 - 3.00)	0.386
Preoperative diagnosis			
GI disease	77 (50.33)	14 (66.67)	0.160
DTP	44 (28.76)	11 (52.38)	0.029
Appendix disease	10 (6.54)	0 (0.00)	0.480
GI obstruction	19 (12.42)	1 (4.76)	0.505
Bowel necrosis	3 (1.96)	2 (9.52)	0.111
GI bleeding	1 (0.65)	0 (0.00)	1.000
Biliary disease	20 (13.07)	2 (9.52)	0.913
Pancreatic disease	22 (14.38)	1 (4.76)	0.381
Trauma	7 (4.58)	0 (0.00)	1.000
Other disease	31 (20.26)	5 (23.81)	0.929
Malignancy	21 (13.73)	5 (23.81)	0.374
Time from admission to surgery (hours)	16.25 (2.81 - 140.13)	5.79 (2.67 - 153.13)	0.989
ICU admission after surgery	128 (83.66)	19 (90.48)	0.626
Length of ICU stay (days)	4.49 (1.98 - 12.87)	9.68 (2.18 - 17.54)	0.374
Length of hospital stay (days)	18.00 (10.00 - 32.00)	21.00 (9.00 - 25.00)	0.540
Anesthetic agents			
Propofol	139 (90.85)	18 (85.71)	0.725
Etomidate	17 (11.11)	5 (23.81)	0.196
Ketamine	8 (5.23)	0 (0.00)	0.598
Sevoflurane/Isoflurane/Desflurane	137 (89.54)	20 (95.24)	0.665
Dexmedetomidine	18 (11.76)	3 (14.29)	1.000
Corticosteroids	81 (52.94)	14 (66.67)	0.236
Vasoactive agents			
Norepinephrine	69 (45.10)	14 (66.67)	0.064
Phenylephrine	76 (49.67)	10 (47.62)	0.860

Dopamine	22 (14.38)	2 (9.52)	0.789
Epinephrine	8 (5.23)	2 (9.52)	0.769
Intraoperative fluid therapy			
Total fluid input (ml/kg/h)	18.61 (13.36 - 25.34)	18.64 (13.13 - 27.51)	0.830
Crystalloid fluid input (ml/kg/h)	11.94 (8.37 - 16.36)	9.94 (7.83 - 17.82)	0.817
Colloid fluid input (ml/kg/h)	5.05 (2.36 - 7.21)	5.32 (3.70 - 7.14)	0.464
Intraoperative urine output (ml/kg/h)	1.82 (0.78 - 2.86)	1.43 (0.67 - 2.09)	0.301
Blood transfusion	55 (35.95)	8 (38.10)	0.848
Intraoperative blood loss (ml)	100.00 (50.00 - 300.00)	100.00 (50.00 - 200.00)	0.863
Intraoperative events			
Hypotension	122 (79.74)	17 (80.95)	1.000
The frequency of hypotension	6.00 (1.00 - 18.00)	3.00 (1.00 - 10.00)	0.252
Duration of MAP<60 mmHg (min)	10.00 (0.00 - 30.00)	10.00 (0.00 - 35.00)	0.521
Minimum MAP (mmHg)	51.52 ± 14.47	52.14 ± 14.84	0.853
Lactate (mmol/L)	1.60 (1.12 - 2.90)	2.00 (1.10 - 5.20)	0.425
L/A	0.05 (0.04 - 0.10)	0.06 (0.03 - 0.15)	0.292
Type of surgery			0.205
Emergency surgery	103 (67.32)	17 (80.95)	
Elective surgery	50 (32.68)	4 (19.05)	
Surgical time (min)	148.00 (100.00 - 202.00)	158.00 (100.00 - 205.00)	0.641
Failure to extubate on the POD1	19 (12.42)	2 (9.52)	0.980
Use of vasoactive agents on the POD1	54 (35.29)	7 (33.33)	0.860
Urine output on the POD1 (ml/kg/h)	1.45 (0.77 - 1.91)	1.09 (0.56 - 1.45)	0.054
Preoperative biochemical parameters			
Creatinine (μmol/L)	88.80 (60.00 - 144.50)	88.00 (70.40 - 167.60)	0.458
Total bilirubin (μmol/L)	22.40 (12.70 - 46.40)	16.90 (10.50 - 134.90)	0.698
Albumin (g/L)	31.79 ± 6.29	29.59 ± 7.51	0.143
Preoperative blood routine			
Platelet (×10 ⁹ /L)	176.00 (107.00 - 270.00)	131.00 (65.00 - 212.00)	0.186
Red blood cells (×10 ¹² /L)	3.75 (3.06 - 4.45)	3.75 (3.20 - 4.00)	0.325
Hemoglobin (g/L)	115.27 ± 32.79	107.71 ± 27.12	0.315
White blood cells (×10 ⁹ /L)	10.32 (5.53 - 16.92)	10.27 (4.78 - 16.34)	0.432
Neutrophils (×10 ⁹ /L)	8.68 (4.29 - 14.36)	6.08 (4.03 - 14.49)	0.383
Lymphocytes (×10 ⁹ /L)	0.78 (0.49 - 1.26)	0.57 (0.42 - 1.22)	0.732
Preoperative NLR	9.89 (6.06 - 20.50)	9.89 (7.69 - 15.64)	0.780
Preoperative PLR	230.48 (121.18 - 362.32)	196.52 (62.99 - 435.37)	0.644
Preoperative SII	1779.85 (895.54 - 3174.18)	1193.88 (382.06 - 2405.45)	0.190
Postoperative biochemical parameters			
Creatinine (μmol/L)	90.00 (59.80 - 127.20)	105.40 (79.00 - 132.00)	0.144
Total bilirubin (μmol/L)	25.20 (11.70 - 46.80)	27.20 (12.50 - 58.80)	0.712
Postoperative blood routine			
Platelet (×10 ⁹ /L)	135.00 (71.00 - 194.00)	100.00 (56.00 - 130.00)	0.049
Hemoglobin (g/L)	99.73 ± 24.85	94.81 ± 24.00	0.395
White blood cells (×10 ⁹ /L)	10.58 (5.60 - 15.63)	7.26 (3.34 - 13.28)	0.087
Neutrophils (×10 ⁹ /L)	9.11 (4.74 - 14.18)	6.78 (3.20 - 12.12)	0.109

Lymphocytes (×10 ⁹ /L)	0.60 (0.33 - 0.88)	0.32 (0.25 - 0.76)	0.231
Postoperative NLR	12.97 (10.06 - 25.81)	13.00 (6.90 - 24.58)	0.649
Postoperative PLR	208.97 (117.88 - 452.86)	194.42 (117.14 - 518.73)	0.982
Postoperative SII	1829.81 (874.15 - 3732.94)	1330.95 (765.15 - 2283.12)	0.216

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