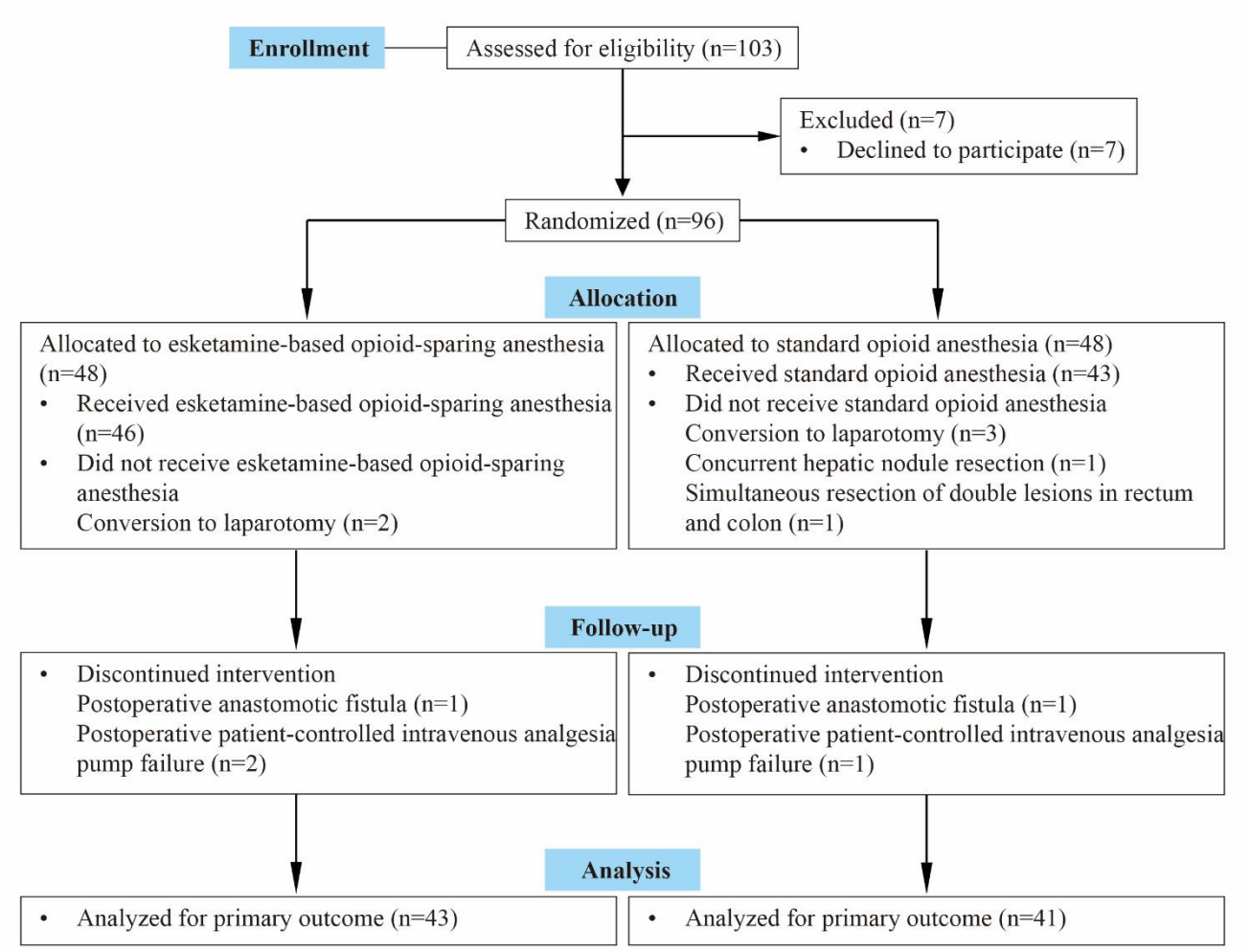
Enrollment
Assessed for eligibility (n=103)
Excluded (n=7)
• Declined to participate (n=7)
Randomized (n=96)
Allocation
Allocated to esketamine-based opioid-sparing anesthesia (n=48)
• Received esketamine-based opioid-sparing anesthesia (n=46)
• Did not receive esketamine-based opioid-sparing anesthesia
Conversion to laparotomy (n=2)
Allocated to standard opioid anesthesia (n=48)
• Received standard opioid anesthesia (n=43)
• Did not receive standard opioid anesthesia
Conversion to laparotomy (n=3)
Concurrent hepatic nodule resection (n=1)
Simultaneous resection of double lesions in rectum and colon (n=1)
Follow-up
• Discontinued intervention
Postoperative anastomotic fistula (n=1)
Postoperative patient-controlled intravenous analgesia pump failure (n=2)
• Discontinued intervention
Postoperative anastomotic fistula (n=1)
Postoperative patient-controlled intravenous analgesia pump failure (n=1)
Analysis
• Analyzed for primary outcome (n=43)
• Analyzed for primary outcome (n=41)

Baseline Characteristics:

Baseline demographic and clinical characteristics

	Esketamine-based opioid-sparing anesthesia（N=43）	Standard opioid anesthesia（N=41）
Age (years)	64.4 (7.3)	64.3 (8.5)
Sex (female)	23 (53.5%)	18 (43.9%)
ASA:		
II	42 (97.7%)	38 (92.7%)
III	1 (2.3%)	3 (7.3%)
Height (cm)	162.2 (7.3)	164.1 (8.0)
Weight (kg)	62.7 (9.9)	64.1 (10.2)
BMI	23.8 (2.9)	23.7 (2.5)
Hypertension	23 (53.5%)	23 (56.1%)
Diabetes	6 (14.0%)	8 (19.5%)
Smoking status:		
male	14 (32.6%)	15 (39.0%)
female	0 (0)	1 (2.4%)
History of PONV / History of Motion Sickness:		
male	0 (0)	0 (0)
female	2 (4.7%)	0 (0)
Apfel Risk Score:		
1	14 (32.6%)	15 (36.6%)
2	6 (14.0%)	9 (22.0%)
3	21 (48.8%)	17 (41.5%)
4	2 (4.7%)	0 (0)
Surgical site:		
Left colon	3 (7.0%)	3 (7.3%)
Right colon	9 (20.9%)	7 (17.1%)
Sigmoid colon	14 (32.6%)	16 (39.0%)

	Esketamine-based opioid-sparing anesthesia（N=43）	Standard opioid anesthesia（N=41）
Rectum	17 (39.5%)	15 (36.6%)
Operating time (min)	135.0 (115.0, 165.0)	127.0 (105.0, 152.5)
Anesthesia time (min)	160.0 (140.0, 190.0)	155.0 (135.0, 175.0)
Extubation time (min)	28.8 (6.4)	32.2 (8.8)
Amount of bleeding (ml)	30.0 (20.0, 50.0)	30.0 (20.0, 50.0)
Urine volume (ml)	100.0 (100.0, 200.0)	100.0 (100.0, 262.5)
Volume delivered (ml)	1283.7 (302.3)	1389.0 (348.3)
Anesthetics and analgesics:		
Midazolam (mg)	3.0 (3.0,3.5)	3.0 (3.0, 3.5)
Cisatracurium besylate (mg)	27.0 (23.0, 31.0)	27.0 (24.0, 31.5)
Remifentanil (μg)	880.0 (640.0, 1040.0)	820.0 (660.0, 1000.0)
Propofol (mg)	940.0 (790.0, 1110.0)	770.0 (610.0, 920.0)
Intraoperative sufentanil dosage (μg)	51.9 (10.8)	75.6 (15.4)
Intraoperative esketamine dosage (mg)	30.3 (8.9)	-
Cumulative sufentanil administration (μg)	114.8 (17.8)	203.0 (33.4)
Cumulative esketamine administration (mg)	93.2 (17.5)	-

Data are means (SD) or numbers (%) or median (IQR).

Outcome Measures:

The incidence of PONV in the two groups of patients

Endpoint	**Number (%)**		**Risk difference (95% CI)**
	Intervention (n=43)	**Control (n=41)**	
Primary endpoint			

The incidence of PONV within 0-48 hours	5 (12)	13 (32)	0.28 (0.09 to 0.89)
Secondary endpoint			
The incidence of PONV within 0-1 hours	1 (2)	1 (2)	0.95 (0.06 to 15.75)
The incidence of PONV within 1-24 hours	5 (12)	12 (29)	0.32 (0.10 to 1.00)
The incidence of PONV within 24-48 hours	2 (5)	3 (7)	0.62 (0.10 to 3.90)

Intervention: esketamine-based opioid-sparing anesthesia; Control: standard opioid anesthesia

Adverse Events:

Complications occurred in both groups of patients 48 hours after the operation

Adverse Events	**Number (%)**		**Risk difference (95% CI)**
	Intervention (n=43)	**Control (n=41)**	
Dizzy	3 (7)	14 (34)	0.15 (0.04 to 0.55)
Headache	0 (0)	0 (0)	-
Diplopia	0 (0)	1 (2)	0.98 (0.93 to 1.02)
Hallucinations	0 (0)	0 (0)	-
Nightmares	0 (0)	0 (0)	-

Intervention: esketamine-based opioid-sparing anesthesia; Control: standard opioid anesthesia