

Supplementary Table 1 Distribution of knowledge

Knowledge	<i>n</i> (%)		
	Very familiar	Somewhat familiar	Not familiar
1. Ischemic bowel disease is a condition characterized by varying degrees of local tissue necrosis in the intestinal wall and a series of symptoms due to insufficient blood supply to the small and large intestine.	163(51.75)	143(45.4)	9(2.86)
2. Colonoscopy is the primary diagnostic method for ischemic colitis.	197(62.54)	107(33.97)	11(3.49)
3. Ischemic bowel disease can be classified into three types: Acute Mesenteric Ischemia (AMI), Chronic Mesenteric Ischemia (CMI), and Ischemic Colitis (IC). Although AMI has a low incidence, it is associated with a high mortality rate.	134(42.54)	163(51.75)	18(5.71)
4. The most valuable diagnostic method for ischemic colitis is:			
a. CT	2(0.63)		
b. Magnetic Resonance Imaging (MRI)	2(0.63)		
c. Ultrasound (B-mode)	150(47.62)		
d. Endoscopy	161(51.11)		
e. Mesenteric Artery CT Angiography (CTA)	2(0.63)		

5. The symptoms of ischemic bowel disease mainly include abdominal pain, intestinal emptying disorders, intermittent rectal bleeding, lower abdominal crampy pain, hypotension, tachycardia, diarrhea, abdominal distension, nausea, vomiting, <i>etc.</i>	182(57.78)	129(40.95)	4(1.27)
6. Ischemic bowel disease is more common in elderly patients with atherosclerosis and heart failure	190(60.32)	119(37.78)	6(1.9)
7. Risk factors for ischemic bowel disease include heart failure, arrhythmias, atrial fibrillation, shock due to various causes, arterial thrombosis, mechanical intestinal obstruction, <i>etc.</i>	178(56.51)	130(41.27)	7(2.22)
8. Iatrogenic factors such as aneurysmectomy, aortic surgery, coronary artery bypass grafting, intestinal resection surgery, colonoscopy, barium enema, gynecological surgery, <i>etc.</i> , can lead to ischemic bowel disease in the elderly	139(44.13)	158(50.16)	18(5.71)
9. Medications such as cocaine, danazol, digoxin, estrogen, phenylpropanolamine, diuretics, nonsteroidal anti-inflammatory drugs, <i>etc.</i> , can contribute to the occurrence of ischemic bowel disease in the elderly	101(32.06)	179(56.83)	35(11.11)
10. Patients suspected of mesenteric ischemia should be immediately fasted, and blood pressure, pulse, hourly urine output, and if necessary, central venous	146(46.35)	157(49.84)	12(3.81)

pressure or pulmonary capillary wedge pressure should be closely monitored.

11. Elderly patients with underlying conditions such as diabetes, atherosclerosis, coronary heart disease, hypertension, hyperlipidemia, arrhythmias, etc., should be considered for ischemic bowel disease when experiencing abdominal pain lasting > 2 hours, especially if symptoms are disproportionate to signs, aiming for early diagnosis and treatment	158(50.16)	143(45.4)	14(4.44)
12. Due to the relatively low overall incidence and the difficulty in early diagnosis of ischemic bowel disease, it often needs to be differentiated from conditions such as Crohn's disease, colon tumors, mechanical intestinal obstruction, acute pancreatitis, etc., leading to potential misdiagnosis	156(49.52)	149(47.3)	10(3.17)
13. The main treatment strategies for ischemic bowel disease include avoiding triggering factors, medication, vasodilation therapy, interventional therapy, and surgical treatment	157(49.84)	149(47.3)	9(2.86)

Supplementary Table 2 Distribution of attitude

Attitude	Strongly	Agree	Neutr	Disag	Strongly
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	agree		al	ree	disagree
1. Do you consider early diagnosis of ischemic bowel disease crucial for the prognosis of patients?	211(66.98)	96(30.48)	7(2.22)	1(0.32)	/
2. Do you believe that suspected mesenteric ischemia patients should immediately undergo fasting and close monitoring?	167(53.02)	118(37.46)	26(8.25)	4(1.27)	/
3. Due to the acute necrotic type of ischemic bowel disease having a rapid onset, quick progression, and a high mortality rate, do you think making a timely and accurate clinical diagnosis is particularly important for the prognosis?	212(67.3)	98(31.11)	5(1.59)	/	/
4. In your opinion, should healthcare professionals receive more training and education on ischemic bowel disease?	218(69.21)	90(28.57)	7(2.22)	/	/
5. Do you think the management of ischemic bowel disease patients requires collaboration from a multidisciplinary team?	202(64.13)	105(33.33)	8(2.54)	/	/
6. For patients whose diagnosis is challenging, do you believe that interdisciplinary teamwork is crucial for an accurate diagnosis?	210(66.67)	98(31.11)	6(1.9)	1(0.32)	/

Supplementary Table 3 Distribution of practice

Practice	Always	Often	Sometimes	Occasionally	Never
1. In your daily work, how often do you encounter cases where ischemic bowel disease is underdiagnosed?	7 (2.22)	33 (10.48)	111 (35.24)	121 (38.41)	43 (13.65)
2. In your daily work, how often do you come across cases where the diagnosis of ischemic bowel disease is delayed?	10 (3.17)	45 (14.29)	103 (32.7)	111 (35.24)	46 (14.6)
3. In your practice, do you perform urgent or emergency vascular reconstruction surgery for patients with acute abdominal pain caused by mesenteric ischemia?	26 (8.25)	44 (13.97)	90 (28.57)	91 (28.89)	64 (20.32)
4. For patients suspected of having ischemic bowel disease, do you closely monitor and strive for a prompt diagnosis?	145 (46.03)	90 (28.57)	44 (13.97)	32 (10.16)	4 (1.27)
5. When dealing with elderly patients experiencing abdominal pain and having atherosclerosis or heart	116 (36.83)	96 (30.48)	56 (17.78)	39 (12.38)	8 (2.54)

failure, do you conduct differential diagnosis for ischemic bowel disease?

6. How frequently do you engage in interdisciplinary teamwork for the collaborative diagnosis of ischemic bowel disease?

59 (18.73) 86 (27.3) 75 (23.81) 72 (22.86) 23 (7.3)

7. In your clinical practice, what are the most useful factors contributing to the early diagnosis of ischemic bowel disease (without infarction)? (Multiple options can be selected, up to 5)

- | | |
|--|-------------|
| a. History of postprandial abdominal pain | 180 (57.14) |
| b. No unintentional weight loss history | 45 (14.29) |
| c. Reduced dietary intake | 57 (18.1) |
| d. Presence of cardiovascular risk factors | 271 (86.03) |
| e. Abdominal pain with tenderness | 222 (70.48) |
| f. Elevated inflammatory markers (CRP/ESR) | 131 (41.59) |
| g. Elevated serum lactate | 33 (10.48) |
| h. Acidosis | 32 (10.16) |
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i. Other abnormalities in blood tests	31 (9.84)
j. Use of indocyanine green (ICG)	12 (3.81)
k. Abdominal and pelvic CT without intravenous contrast	37 (11.75)
l. Abdominal and pelvic CT with intravenous contrast	89 (28.25)
n. Contrast-enhanced ultrasound (CEUS)	43 (13.65)
m. Diagnostic laparoscopy/abdominal surgery	35 (11.11)
o. Vascular imaging	155 (49.21)
8. In your clinical practice, which factors are most useful for making a correct diagnosis of ischemic bowel disease? (Multiple options can be selected, up to 5)	
a. History of postprandial abdominal pain	141 (44.76)
b. No unintentional weight loss history	28 (8.89)
c. Reduced dietary intake	49 (15.56)
d. Presence of cardiovascular risk factors	218 (69.21)
e. Abdominal pain with tenderness	203 (64.44)

f. Elevated inflammatory markers (CRP/ESR)	124 (39.37)
g. Elevated serum lactate	37 (11.75)
h. Acidosis	27 (8.57)
i. Other abnormalities in blood tests	36 (11.43)
j. Use of indocyanine green (ICG)	18 (5.71)
k. Abdominal and pelvic CT without intravenous contrast	48 (15.24)
l. Abdominal and pelvic CT with intravenous contrast	109 (34.6)
n. Contrast-enhanced ultrasound (CEUS)	56 (17.78)
m. Diagnostic laparoscopy/abdominal surgery	53 (16.83)
o. Vascular imaging	170 (53.97)

Supplementary Table 4 Univariate and multivariate analysis for knowledge

Knowledge	Univariate analysis		Multivariate analysis	
	β (95%CI)	<i>P</i> value	β (95%CI)	<i>P</i> value
			Adj R-squared ² = 0.3547	
			F= 12.51 (<i>P</i> <0.001)	
Age (years)				
1				
2	3.72 (0.86,6.58)	0.011	2.80 (0.31,5.30)	0.028
3	3.27 (0.41,6.12)	0.025	2.03 (-0.61,4.68)	0.131
4	3.15 (-0.01,6.32)	0.051	0.90 (-2.04,3.85)	0.546
Gender				
Male				
Female	-0.19 (-1.46,1.085)	0.768		
Education				

Bachelor's degree and below				
Master's degree and above	2.20 (1.03,3.36)	1	<0.00 -0.57 (-1.97,0.81)	0.416
Years of professional experience, years				
1-3				
4-6	1.74 (-0.53,4.02)		0.133	
7-10	0.75 (-1.36,2.86)		0.485	
>10	0.70 (-1.03,2.45)		0.425	
Professional title				
Junior and below				
Intermediate	1.83 (0.48,3.19)		0.008 0.76 (-0.52,2.05)	0.244
Vice / senior	3.30 (1.72,4.88)	1	<0.00 2.66 (0.91,4.41)	0.003
Position				
Doctor				
Department (vice) director	0.67 (-1.2,2.65)		0.499 -0.38	0.674

			(-2.15,1.39)	
Nurse /nursing supervisor	-2.81	<0.00	-3.78	<0.00
	(-4.38,-1.25)	1	(-5.45,-2.11)	1
Hospital grade				
Tertiary hospital				
Secondary hospital	-0.73	0.339	-1.22	0.097
	(-2.25,0.77)		(-2.67,0.22)	
Primary hospital/other	-3.82	<0.00	-1.59	0.117
	(-5.58,-2.05)	1	(-3.59,0.40)	
Department				
Emergency/ intensive care unit/ general surgery				
Gastroenterology	1.89 (-0.06,3.85)	0.058	1.52 (-0.2,3.28)	0.089
Cardiology	-1.13	0.396	-0.87	0.456
	(-3.76,1.49)		(-3.17,1.42)	
Other	-2.85	0.01	-1.35	0.167
	(-5.01,-0.69)		(-3.28,0.57)	
Participation in training on ischemic bowel disease				

Yes	4.33 (3.25,5.42)	1	<0.00	3.45 (2.39,4.51)	1	<0.00
No						
Number of patients admitted in the past month						
0-5 cases						
>5 cases	4.32 (2.42,6.23)	1	<0.00	3.25 (1.58,4.92)	1	<0.00

Supplementary Table 5 Univariate and multivariate analysis for attitude

Attitude	Univariate analysis		Multivariate analysis	
	β (95%CI)	<i>P</i> value	β (95%CI)	<i>P</i> value
			Adj R-squared =0.2617	
			F=10.28 (<i>P</i> <0.001)	
Knowledge score		<0.00		<0.00
	0.23 (0.18,0.29)	1	0.20 (0.15,0.26)	1
Age (years)				
1				
2			0.37	
	1.82 (0.34,3.30)	0.016	(-0.98,1.73)	0.586
3			-0.09	
	1.60 (0.12,3.08)	0.033	(-1.53,1.35)	0.902
4			-0.37	
	1.33 (-0.30,2.97)	0.111	(-1.99,1.24)	0.652
Gender				
Male				

Female	-0.54			
	(-1.20,0.111)	0.104		
Education				
Bachelor's degree and below				
Master's degree and above		<0.00	0.41	
	1.40 (0.80,1.99)	1	(-0.23,1.06)	0.208
Years of professional experience, years				
1-3				
4-6	0.5 (-0.68,1.68)	0.406		
7-10	0.27 (-0.81,1.37)	0.618		
>10	0.06 (-0.83,0.97)	0.887		
Professional title				
Junior and below				
Intermediate			0.27	
	0.84 (0.13,1.55)	0.019	(-0.43,0.98)	0.448
Vice / senior			0.35	
	1.21 (0.38,2.04)	0.004	(-0.58,1.30)	0.457

Position				
Doctor				
Department (vice) director			0.60	
	0.57 (-0.41,1.56)	0.255	(-0.36,1.56)	0.22
Nurse /nursing supervisor	-2.23	<0.00	-1.30	
	(-3.01,-1.45)	1	(-2.16,-0.4)	0.003
Hospital grade				
Tertiary hospital				
Secondary hospital	0.24 (-0.55,1.05)	0.544		
Primary hospital/other	-0.77			
	(-1.71,0.159)	0.104		
Department				
Emergency / intensive care unit / general surgery				
Gastroenterology	-0.75		-0.89	
	(-1.82,0.32)	0.17	(-1.85,0.06)	0.068
Cardiology	-1.40		-1.19	
	(-2.84,0.04)	0.057	(-2.46,0.07)	0.064

Other	-1.62		-0.63	
	(-2.81,-0.44)	0.007	(-1.69,0.42)	0.239
Participation in training on ischemic bowel disease				
Yes	0.39 (-0.21,1.01)	0.203		
No				
Number of patients admitted in the past month				
0-5 cases				
b. >5 cases	0.18 (-0.83,1.20)	0.723		

Supplementary Table 6 Univariate and multivariate analysis for practice

Practice	Univariate analysis		Multivariate analysis	
	β (95%CI)	P value	β (95%CI)	P value
			$R^2=0.1922^*$ F=11.07 (P<0.001)	
Knowledge score	0.31(0.23,0.39)	<0.001	0.20(0.10,0.30)	<0.001
Attitude score	0.45(0.29,0.61)	<0.001	0.24(0.06,0.42)	0.007
Age (years)				
1				
2	-1.0(-3.3,1.25)	0.378		
3	-1.0(-3.3,1.23)	0.369		
4	-0.5(-3.05,2.0)	0.683		

	0)			
Gender				
Male				
Female	-0.64(-1.64,0.	0.211		
	36)			
Education				
Bachelor's degree and below				
Master's degree and above	1.02(0.09,1.95)	0.031	0.22(-0.66,1.1	0.621
			0)	
Years of professional experience, years				
1-3				
4-6	0.47(-1.33,2.2	0.607		
	7)			
7-10	0.20(-1.46,1.8	0.808		
	7)			
>10	-0.3(-1.72,1.0	0.624		
	3)			

Professional title		
Junior and below		
Intermediate	0.79(-0.3,1.88	0.156
)	
Vice / senior	1.13(-0.1,2.40	0.082
)	
Position		
Doctor		
Department (vice) director	0.93(-0.65,2.5	0.247
	1)	
Nurse /nursing supervisor	-1.04(-2.29,0.	0.102
	20)	
Hospital grade		
Tertiary hospital		
Secondary hospital	0.33(-0.90,1.5	0.598
	6)	
Primary hospital/other	-0.56(-2.00,0.	0.435

	86)			
Department				
Emergency/ intensive care unit/ general surgery				
Gastroenterology	0.88(-0.74,2.5			
	2)	0.286		
Cardiology	-0.03(-2.22,2.			
	16)	0.978		
Other	-1.00(-2.80,0.			
	80)	0.275		
Participation in training on ischemic bowel disease				
Yes	1.95(1.04,2.8	<0.0	0.80(-0.14,1.7	
	7)	01	6)	0.095
No				
Number of patients admitted in the past month				
0-5 cases				
>5 cases	2.32(0.79,3.8		1.053(-0.42,2.	
	5)	0.003	52)	0.161

Supplementary Table 7 Structural equation modeling model fit

Indicators	Reference	Results
RMSEA	< 0.08 Good	0.000
SRMR	< 0.08 Good	0.000
TLI	> 0.8 Good	1.000
CFI	> 0.8 Good	1.000