Study on the relationship between traditional medicine syndromes in patients with peptic ulcer disease and peptic ulcer disease complicated by gastrointestinal hemorrhage

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Abstract

Background: Peptic ulcer disease is quite common in the community, prone to recurrence, and associated with many dangerous complications, including gastrointestinal bleeding. According to traditional medicine, described in peptic ulcer disease belong to the category of "gastric upset". To assist physicians in diagnosing and effectively treating this disease, while also reducing the risk of gastrointestinal bleeding, we conducted this study. **Objectives:** To investigate certain characteristics of traditional medicine syndromes and patterns in patients with peptic ulcer disease and those with peptic ulcers complicated by gastrointestinal bleeding. Additionally, to explore the relationship between traditional medicine syndromes and certain factors in patients with peptic ulcers and those with peptic ulcers complicated by gastrointestinal bleeding at Hue University of Medicine and Pharmacy Hospital. **Materials and method:** A cross-sectional descriptive study was conducted on 105 patients diagnosed with peptic ulcer disease at the General Internal Medicine - Endocrinology - Musculoskeletal Department and the Gastroenterology - Endoscopy Center at Hue University of Medicine and Pharmacy Hospital. **Results:** The average age was 58.05 ± 15.62 years old, with the highest percentage of patients being over 60 years old. Patients with duodenal ulcers accounted for the highest proportion in both patient groups with rates of 52.7% and 52.0%. Clinical characteristics according to traditional medicine: Excess 79.1%, Deficiency 20.9%; Qi stagnation syndrome accounted for 31.4%, Fire stagnation 27.6%, Blood stasis 22.9%, and Spleen stomach deficiency cold 18.1%. Patients with Qi stagnation, Fire stagnation, and Blood stasis had a disease duration of less than 6 months, while those with Spleen stomach deficiency cold had a disease duration of more than 12 months, which was higher than other syndromes ($p<0.05$). **Conclusions:** Duodenal ulcers were the most commonly encountered. Most patients with blood stasis syndrome were classified as Forrest IIa or IIb; there is a relationship between the characteristics of traditional medicine syndromes in the group of patients with peptic ulcer disease complicated by gastrointestinal bleeding and the Forrest classification ($p<0.05$).

***Keywords**: Peptic ulcer, gastrointestinal bleeding, traditional medicine.*

1. INTRODUCTION

Peptic ulcer disease is quite common in the community, affecting about 5 - 10% of the global population. Its main characteristic is a chronic, recurrent condition that follows a cyclical course and can easily lead to dangerous complications such as gastrointestinal bleeding, perforation, and stomach cancer. This disease occurs in all age groups, often persisting for a long time, affecting quality of life and work, and reducing the overall labor productivity of society [1]. Upper gastrointestinal bleeding (UGIB) is the most common gastrointestinal emergency, with UGIB due to peptic ulcers accounting for 82.0% of cases, tears in the gastroesophageal junction accounting for 9.9%, vascular malformations 5.6%, and other causes 2.5% [2]. UGIB caused by peptic ulcers often has many complications, and the mortality rate remains high, around 5-12% [3]. The risk of death largely depends on age, comorbidities, the severity of the bleeding, and recurrent bleeding. In recent years, with the increasing pace of life and work intensity, population aging, and the widespread use of nonsteroidal anti-inflammatory drugs (NSAIDs), the incidence of UGIB due to peptic ulcers has tended to increase [1]. According to Traditional Medicine, peptic ulcers belong to the category of "Wei Guan Tong" (epigastric pain), and UGIB caused by peptic ulcers is categorized as "Xue Zheng" (hemorrhagic syndrome) [4]. Although these two conditions fall under different discussions in Traditional Medicine, modern medicine has confirmed a close relationship, with both having a common pathological basis of gastric and duodenal mucosal damage. Studying the correlation between

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Traditional Medicine syndromes in these two conditions helps to understand the progression of the disease, control bleeding factors, and reduce the bleeding rate in patients with peptic ulcers. Based on the issues mentioned above, we conducted the study titled "Study on the relationship between Traditional Medicine syndromes in patients with peptic ulcer disease and peptic ulcer disease complicated by gastrointestinal hemorrhage" with two objectives: (1) To investigate some characteristics of Traditional Medicine symptoms and syndromes in patients with peptic ulcers and patients with peptic ulcers complicated by gastrointestinal bleeding. (2) To explore the correlation between Traditional Medicine syndromes and some factors in patients with peptic ulcers and patients with peptic ulcers complicated by gastrointestinal bleeding at Hue University of Medicine and Pharmacy Hospital.

2. MATERIALS AND METHODS

2.1. Patients

Patients who visited and received treatment at the Department of General Internal Medicine - Endocrinology - Musculoskeletal and the Gastroenterology - Endoscopy Center of Hue University of Medicine and Pharmacy Hospital, diagnosed with peptic ulcer from July 2023 to July 2024.

2.1.1. Inclusion criteria

+ Patients aged 18 years or older, diagnosed with peptic ulcer disease (PUD) based on gastroduodenoscopy results.

+ Patients hospitalized due to gastrointestinal bleeding (GIB) caused by peptic ulcers, having undergone endoscopic hemostasis or having a history of GIB caused by peptic ulcers.

+ Patients who agree to cooperate and participate in the study, with each patient only being included in the sample once.

2.1.2. Exclusion criteria

+ Patients with gastrointestinal bleeding caused by varices, Mallory-Weiss tear, vascular malformations, Crohn's disease, leukemia, and other blood disorders.

+ Patients who have undergone gastrectomy, have stomach cancer, duodenal cancer, lymphoma, etc.

+ Patients with liver or kidney disease, or acute diseases.

2.2. Methods

2.2.1. Research design

A cross-sectional descriptive study.

2.2.2. Sampling method

Convenience sampling method, including 105 patients diagnosed with peptic ulcers and peptic ulcers with gastrointestinal bleeding, identified through endoscopy, who meet the study's inclusion criteria.

2.2.3. Study content

+ General characteristics of the study subjects: age, gender, duration of illness, etc.

+ Lesion locations determined through gastroduodenoscopy. Forrest classification [5]: Ia (spurting arterial bleeding), Ib (oozing bleeding), IIa (visible vessel without active bleeding), IIb (ulcer with adherent clot), IIc (flat pigmented spot on ulcer base), III (clean ulcer base).

+ Survey of some clinical features according to modern medicine and traditional medicine.

+ Clinical classifications according to traditional medicine are divided into 4 categories [4]:

- Qi stagnation: episodic epigastric pain, pain radiating to the flanks, extending to the back, abdominal distension, belching, acid reflux, constipation, slightly red tongue body, thin white or slightly yellow coating, wiry pulse.
- Fire stagnation: episodic epigastric pain, burning pain, restlessness, irritability, dry and bitter mouth, acid reflux, constipation, red tongue body, yellow coating, wiry rapid pulse.
- Blood stasis: severe epigastric pain and burning sensation, localized pain, hematemesis, melena, dark purple tongue body, stasis spots on the tongue, yellow or moist coating, wiry rapid or fine choppy pulse.
- Spleen stomach deficiency cold: persistent epigastric pain, preference for warmth and massage, abdominal fullness, frequent vomiting, vomiting of clear fluids, loose stools alternating with constipation, pale tongue body, white coating, weak pulse.

2.2.4. Data analysis and processing: Collected data will be entered, analyzed, and processed using SPSS version 20.0.

3. RESULTS

From July 2023 to July 2024, a total of 105 patients who met the inclusion criteria were enrolled in the study, including 55 patients with peptic ulcers and 50 patients with peptic ulcers complicated by gastrointestinal bleeding.

3.1. Characteristics of certain symptoms and syndromes according to traditional medicine in patients with peptic ulcers and patients with peptic ulcers complicated by gastrointestinal bleeding.

Table 1. General characteristics of the study subjects

General characteristics		Peptic ulcer (n=55)	Peptic ulcer with gastrointestinal bleeding (n=50)	Total (n=105)	p
		n (%)	n (%)	n (%)	
Age group	18 - 40	7 (12.7)	5 (10.0)	12 (11.4)	>0.05
	41 - 60	21 (38.2)	24 (48.0)	45 (42.8)	
	>60	27 (49.1)	21 (42.0)	48 (50.8)	
Average age ($\overline{X}$ ± SD)		58.11 ± 14.24	57.74 ± 17.93	58.05 ± 15.62	
Sex	Male	34 (61.8)	36 (72.0)	70 (66.7)	>0.05
	Female	21 (38.2)	14 (28.0)	35 (33.3)	
Duration of illness	<6 months	28 (50.1)	21 (42.0)	49 (46.7)	>0.05
	6 - 12 months	16 (29.1)	17 (34.0)	33 (31.4)	
	>12 months	11 (20.8)	12 (24.0)	23 (21.9)	

The age group >60 accounted for the highest proportion at 50.8%. The average age of the study subjects was 58.05 ± 15.62. Male patients accounted for 66.7%, higher than female patients at 33.3%. The majority of patients had a disease duration of less than 6 months, accounting for 46.7%. The differences were not statistically significant with p>0.05.

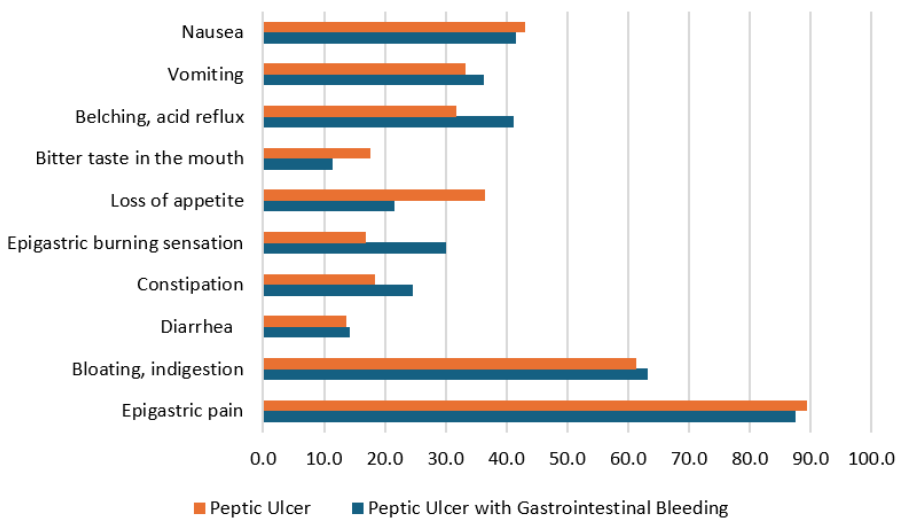

Figure 1. Distribution of common symptoms according to traditional medicine

The most common clinical symptom in both groups was epigastric pain, accounting for 89.4% and 87.3%, respectively. This was followed by bloating and indigestion, with rates of 61.3% and 63.2%, respectively. In the group of patients with peptic ulcers, 36.5% exhibited loss of appetite. In the group of patients with peptic ulcers complicated by gastrointestinal bleeding, the symptoms of epigastric burning sensation (30.1%) and belching/acid reflux (41.1%) were higher compared to the group of patients with peptic ulcers.

Table 2. Distribution of some characteristics of syndromes according to traditional medicine

Clinical characteristics		Peptic ulcer (n=55)	Peptic ulcer with gastrointestinal bleeding (n=50)	Total (n=105)	p
		n (%)	n (%)	n (%)	
Pattern differentiation	Deficiency	13 (23.6)	9 (18.0)	22 (20.9)	<0.05
	Excess	42 (76.4)	41 (82.0)	83 (79.1)	
	Cold	27 (49.1)	14 (28.0)	41 (39.1)	>0.05
	Heat	28 (50.9)	36 (72.0)	64 (60.9)	
Clinical pattern	Qi stagnation	24 (43.6)	9 (18.0)	33 (31.4)	<0.05
	Fire stagnation	10 (18.2)	19 (38.0)	29 (27.6)	
	Blood stasis	9 (16.4)	15 (30.0)	24 (22.9)	
	Spleen- stomach deficiency cold	12 (21.8)	7 (14.0)	19 (18.1)	

Most patients exhibited signs of excess (79.1%) and heat patterns (60.9%). In the group of patients with peptic ulcer with gastrointestinal bleeding, the majority exhibited excess (82.0%) and heat patterns (72.0%), while deficiency and cold patterns accounted for a lower percentage. In terms of clinical patterns, the Qi stagnation pattern had the highest prevalence, while in the group of patients with peptic ulcers with gastrointestinal bleeding, the fire stagnation pattern (38.0%) and blood stasis pattern (30.0%) were more common, with the spleen-stomach cold deficiency pattern being the least common at 14.0%. The difference was statistically significant (p<0.05).

3.2. The relationship between traditional medicine syndromes and certain factors in patients with peptic ulcer disease and patients with peptic ulcer disease complicated by gastrointestinal bleeding

Table 3. The relationship between syndrome patterns and duration of illness

Syndrome Pattern / Duration of Illness	Qi Stagnation	Fire Stagnation	Blood Stasis	Spleen-Stomach Cold Deficiency	p
	n (%)	n (%)	n (%)	n (%)	
<6 months	18 (54.5)	17 (58.6)	12 (50.0)	2 (10.5)	< 0.05
6 - 12 months	11 (33.3)	9 (31.0)	9 (37.5)	4 (21.1)	
>12 months	4 (12.1)	3 (10.3)	3 (12.5)	13 (68.4)	

There is a correlation between syndrome patterns and the duration of illness (p < 0.05). Patients with Qi stagnation, Fire stagnation, and Blood stasis patterns have a higher percentage of illness duration under 6 months, whereas those with Spleen-stomach cold deficiency pattern have a higher percentage of illness duration over 12 months compared to other patterns.

Table 4. The relationship between traditional medicine syndrome patterns and endoscopic characteristics in patients with peptic ulcer disease (n=55)

SyndromePattern / Endoscopic Characteristics		Qi stagnation	Fire stagnation	Blood stasis	Spleen-Stomach cold deficiency	Total	p
		n (%)	n (%)	n (%)	n (%)	n (%)	
Location of Lesion	Stomach	9 (37.5)	3 (30.0)	1 (11.1)	6 (50.0)	19 (34.5)	>0.05
	Duodenum	12 (50.0)	6 (60.0)	8 (88 .9)	3 (25.0)	29 (52.7)	
	Stomach + Duodenum	3 (12.5)	1 (10.0)	0 (0.0)	3 (25.0)	7 (12.8)	

Forrest classifiction	Ia	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	>0.05
	Ib	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	
	IIa	0 (0.0)	1 (10.0)	1 (11.1)	0 (0.0)	2 (3.6)	
	IIb	2 (8.3)	5 (50.0)	2 (22.2)	1 (8.3)	10 (18.2)	
	IIc	9 (37.5)	0 (0.0)	1 (11.1)	1 (8.3)	11 (20.0)	
	III	13 (54.2)	4 (40.0)	5 (55.6)	10 (83.4)	32 (58.2)	

There is no correlation between traditional medicine syndrome patterns and the location of lesions or Forrest classification (p>0.05).

Table 5. The relationship between traditional medicine syndrome patterns and endoscopic characteristics in patients with peptic ulcer disease complicated by gastrointestinal bleeding (n=50)

Endoscopic Characteristics \ Syndrome Pattern		Qi Stagnation	Fire Stagnation	Blood Stasis	Spleen-Stomach Cold Deficiency	Total	p
		n (%)	n (%)	n (%)	n (%)	n (%)	
Location of Lesion	Stomach	3 (33.3)	5 (26.3)	5 (33.3)	4 (57.1)	17 (34.0)	>0.05
	Duodenum	5 (55.6)	11 (57.9)	9 (60.0)	1 (14.3)	26 (52.0)	
	Stomach + Duodenum	1 (11.1)	3 (15.8)	1 (6.7)	2 (28.6)	7 (14.0)	
Forrest Classification	Ia	0 (0.0)	1 (5.3)	1 (6.7)	0 (0.0)	2 (4.0)	<0.05
	Ib	0 (0.0)	1 (5.3)	2 (13.3)	0 (0.0)	3 (6.0)	
	IIa	1 (11.1)	2 (10.5)	5 (33.3)	1 (14.3)	9 (18.0)	
	IIb	2 (22.2)	6 (31.6)	4 (26.7)	3 (42.9)	15 (30.0)	
	IIc	2 (22.2)	7 (36.8)	1 (6.7)	2 (28.5)	12 (24.0)	
	III	4 (44.5)	2 (10.5)	2 (13.4)	1 (14.3)	9 (18.0)	

There is a correlation between traditional medicine syndrome patterns and Forrest classification (p<0.05). Patients with Blood stasis pattern have a majority in Forrest classification IIa and IIb. There is no correlation between traditional medicine syndrome patterns and the location of lesions (p>0.05).

4. DISCUSSION

4.1. Characteristics of certain symptoms and syndromes according to traditional medicine in patients with peptic ulcers and patients with peptic ulcers complicated by gastrointestinal bleeding.

Our study shows that the average age is 58.05 ± 15.62, with the age group over 60 accounting for the highest proportion (50.8%). This result is quite similar to Duong Trong Hien (2024) study, which reported an average age of 59.8 ± 19.1 [6] and is higher than Duong Hien Thao Lan (2022) study which reported an average age of 48.8 ± 13.65, with the 40 - 59 age group accounting for the highest proportion (49.4%) [7]. Peptic ulcers can occur at any age and the age of

onset tends to increase over time due to rising risk factors such as *H. pylori* infection, NSAID and aspirin abuse, psychological stress, and heavy alcohol consumption [1]. According to traditional medicine, women after 49 years old and men after 64 years old experience a decline in vital energy (thien quy), and organ functions begin to deteriorate, making them more susceptible to diseases [10]. Regarding gender, males accounted for 66.7%, higher than females (33.3%). In the group of patients with peptic ulcers and gastrointestinal bleeding, males made up 72.0%, similar to the findings of Duong Trong Hien (2024), where males accounted for 69.8% and females 30.2%, consistent with other studies indicating that gastrointestinal bleeding due to peptic ulcers is more common in males [6]. Most patients had been ill for less than six months (46.7%). This result aligns with Tran Thi Thu Thuy's (2019) study, in which most patients had been ill for less than six months (61.7%) [8] and Vu Thi Thuy Linh (2017) study, where the majority had been ill for under one year (64.2%) [9].

The study result (Figure 1) shows that epigastric pain was a symptom in most patients in both groups, accounting for 89.4% and 87.4%. This result is quite similar to Duong Hien Thao Lan (2022) study, which reported 82.4% [7], and Tran Thi Thu Thuy (2019) study, which reported 95.0% [8]. The most common accompanying symptoms were bloating, indigestion, belching, loss of appetite, and nausea. In the group with gastrointestinal bleeding, symptoms of burning epigastric pain (30.1%), and belching (41.1%) were higher than in the non-bleeding group.

Regarding syndromes according to traditional medicine, most patients exhibited signs of excess syndromes (real syndromes) and heat syndromes. In the group with gastrointestinal bleeding, real syndromes (82.0%) and heat syndromes (72.0%) were predominant, while deficiency and cold syndromes were less frequent, though the difference was not statistically significant ($p>0.05$). In terms of clinical patterns, peptic ulcer disease is classified into four patterns. Our results show that the pattern of qi stagnation accounted for the highest proportion at 31.4%. followed by fire stagnation (27.6%), blood stasis (22.9%), and the lowest was spleen-stomach deficiency and cold at 18.1%. This is quite consistent with Vu Thi Thuy Linh's (2017) study, where qi stagnation accounted for the highest proportion at 49.5%, fire stagnation 29.4%, spleen-stomach deficiency and cold 20.2%, and blood stasis 0.9% [9]. However, the results differ from Tran Thi Thu Thuy's (2019) study, where fire stagnation was the most common at 48.3%, followed by blood stasis at 28.3%, spleen-stomach deficiency and cold at 15.1%, and qi stagnation at 8.3% [8]. In the group with gastrointestinal bleeding, fire stagnation (38.0%) and blood stasis (30.0%) were the most prevalent. In the group without bleeding, qi stagnation (43.6%) was the most common, with the difference being statistically significant ($p<0.05$). Most patients visited medical facilities in the acute phase of the disease. In traditional medicine, qi stagnation corresponds to the early stage of the disease, with stagnation in the stomach, leading to fullness and discomfort, later developing into liver-stomach qi stagnation or liver qi stagnation affecting the stomach. Qi is the commander of blood; when qi moves, blood moves, and when qi is stagnant, blood becomes stagnant. Moreover, "excess qi generates fire" meaning prolonged qi stagnation leads to fire, which depletes body fluids, or after bleeding or blood stasis, the inability to generate new blood can cause yin deficiency. Prolonged illness affecting the stomach can also impact the spleen, leading to impaired transformation and transportation, resulting in disharmony in the body's ascending and descending functions [4], [10].

4.2. Relationship between traditional medicine syndromes and some factors in patients with peptic ulcers and patients with peptic ulcers complicated by gastrointestinal bleeding.

In our study, the patterns of stagnated qi, stagnated fire, and blood stasis had the highest incidence rates in patients with disease duration under 6 months. Meanwhile, the spleen and stomach deficiency-cold pattern showed a higher incidence in patients with disease duration over 12 months. According to traditional medicine, prolonged disease in the stomach affects spleen yang, leading to spleen yang deficiency, which causes patients to experience dull pain that worsens with cold or hunger and improves after eating. The spleen is the source of qi and blood production; when the spleen is deficient, qi and blood become weak, resulting in pale complexion, fatigue, poor appetite, and the generation of internal cold-dampness due to spleen yang deficiency. This cold-dampness can cause rebellious dampness, making patients more prone to nausea and vomiting of water [4, 10]. Short disease duration typically indicates an excess pattern (stagnated qi, stagnated fire, blood stasis), while long disease duration is often associated with a deficiency pattern (spleen and stomach deficiency-cold) [4, 12]. Among the patterns, stagnated fire accounted for 58.6% of cases with a disease duration

under 6 months, and spleen and stomach deficiency-cold accounted for 68.4% of cases with a disease duration over 12 months. The differences were statistically significant with p<0.05.

Regarding the common sites of lesions in peptic ulcers, according to the study results (Tables 4 and 5), duodenal ulcers were the most common, accounting for 52.7% and 52.0%, respectively, which was higher than gastric ulcers, with the lowest proportion being ulcers in both the stomach and duodenum. These results are quite consistent with the study by Trinh Thi Thu Huong (2018), which found that gastric ulcers accounted for 36.3%, duodenal ulcers for 52.5%, and ulcers in both the stomach and duodenum for 11.2% [11]. Among patients with peptic ulcers, most ulcers were classified as Forrest grade III, accounting for 58.2%; for ulcers with a high risk of bleeding (Ia, Ib, IIa, IIb), in the stagnated fire pattern, 50.0% of ulcers were classified as grade IIb, and in the blood stasis pattern. Forrest grades IIa and IIb accounted for 33.3%. However, the differences were not statistically significant with p>0.05.

In the group of patients with peptic ulcers complicated by gastrointestinal bleeding (Table 5), most ulcers were classified as Forrest grade IIb (30.0%), with grades Ia and Ib being the least frequent, at 4.0% and 6.0%, respectively. These results are similar to the study by Duong Trong Hien (2024) on patients with gastrointestinal bleeding due to peptic ulcers, where Forrest grade IIb accounted for the highest proportion at 58.4%, followed by Ia (7.2%) and Ib (18.7%) [6]. Accumulated fire-heat, when not released, can damage the blood vessels in the gastric mucosa, increasing the risk of vascular rupture and bleeding. Patients with the stagnated fire pattern often exhibit severe epigastric burning pain, thirst, and vomiting of blood, which is consistent with the clinical features of patients classified as Forrest grades Ia, Ib, IIa, and IIb. The study results indicate a correlation between traditional medicine patterns and Forrest ulcer classification, with p<0.05, noting that ulcers with a high risk of bleeding (Ia, Ib, IIa, IIb) in the stagnated fire pattern accounted for 57.2% and in the blood stasis pattern 70.0%.

5. CONCLUSION

Peptic ulcer patients in this study had an average age of 58.05 ± 15.62, with most patients having a disease duration of less than 6 months (46.7%). Common clinical symptoms included epigastric pain, bloating, indigestion, poor appetite, and nausea. Most patients exhibited signs of excess and heat patterns. Clinically, the stagnated qi pattern was the most common, accounting for 31.4%, followed by the stagnated fire pattern (27.6%), blood stasis pattern (22.9%), and the least common was the spleen and stomach deficiency-cold pattern (18.1%). There was a correlation between traditional medicine patterns in the group of peptic ulcer patients with gastrointestinal bleeding complications and Forrest classification (p<0.05), with the majority of patients in the blood stasis pattern being classified as Forrest grades IIa and IIb.

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