

ENDOSCOPIC FEATURES AND RISK FACTORS OF ESOPHAGEAL VARICEAL BLEEDING IN CIRRHOTIC PATIENTS

Hoang Trong Thang, Nguyen Thi Phuong Uyen
Hue University of Medicine and Pharmacy, Vietnam

Abstract

Objective: Esophageal variceal bleeding is a severe complication in cirrhosis, so assessing the risk factors for rebleeding play an important role in treating and predicting for cirrhotic patients. **Patients and methods:** 84 patients enrolled in study. Criteria diagnosis of cirrhosis based on portal vein hypertension and liver failure syndrome, associated with U.S signs. The endoscopic classification by JEA. The risk factors of esophageal variceal bleeding including: Child Pugh index, endoscopic images: Size of varices, the red signs and platelet count. **Results:** (i) The 3rd grade of varices: 46.4%, the 1st: 28.6% and the 2nd: 25.0%; (ii) The red signs: 17.9%, and none red signs: 82.1%; (iii) The sites of varices: 1/3 lower part of esophagus: 80.9%; (iv) The mean diameter of portal vein in red signs group: 15.5 ± 1.1 mm, and in none red signs group: 12.1 ± 1.7 mm; (v) The middle and severe bleeding in red signs group: 92.2%; in the none red signs group only 76.5% ($p < 0.05$). **Conclusion:** (i) Endoscopy was the best method in esophageal variceal detection, most cases of varices located at the 1/3 under part of esophagus. There was the relation between the red signs and the degree of esophageal varices $p < 0.01$; (ii) The bigger the diameter of portal vein the more severe of esophageal varices.

Key words: Esophageal varice, cirrhosis

1. INTRODUCTION

Esophageal varices bleeding is a common and severe complication in cirrhosis. It's the second cause in G.I bleeding and consumed a large money in treatment. The mortality rate for the first time of bleeding reached to 20-50%.

Primary prevention in Esophageal variceal bleeding aim to reduce the mortality and increase the survival to the patients. Upper G.I endoscopy took a very important role in the diagnosis, prognosis the rebleeding of esophageal varices, so the study aimed to describe the images of esophageal varices and to evaluate the relationship between the endoscopy images and the risks factors due to Esophageal variceal bleeding in decompensated cirrhosis.

3. RESULTS

3.1. Endoscopy

3.1.1. Located of varices

2. PATIENTS AND METHODS

Including 84 in patients with decompensated cirrhosis > 15 years old admitted to Gastro enterology Department of Hue Central Hospital.

2.1. Diagnosis criteria of cirrhosis

Mainly based on the portal hypertension and liver failure syndrome associated with the typical signs of of cirrhosis on ultrasound.

2.1.1. Characteristic of Esophageal variceal endoscopy

Followed the criteria of JEA, including: sites, size, aspects, red signs, and the bleeding images.

2.1.2. Assessment the risk factors in esophageal variceal bleeding

- The Child Pugh index
- Endoscopic images: The size of varices, thered signs.
- The platelet count

Table 1. Distribution the sites of varices

Site	Pts	%
1/3 of under part	68	80.9
2/3 of under part	16	19.1
Tot	84	100.0

Mostly of varices belong to 1/3 of under.

- Corresponding author: Hoang Trong Thang, email: htthang2002@yahoo.com

- Received: 12/5/2014 * Revised: 22/6/2014 * Accepted: 25/6/2014

DOI: 10.34071/jmp.2014.1e.12

3.1.2. The form of varices

Table.2 The forms of varices

Forms	pts	%
Bunch of grape	59	70.2
Linear	25	29.8
Tol	84	100.0

Bunch of grape account for 70.2%.

3.1.3. Degree of varices

Table 3. The distribution of the degree of varices

Degree	pts	%	P
1rst degree	24	28.6	<0.05
2sd degree	21	25.0	
3 rd degree	39	46.4	
Tol	84	100.0	

The 3rd degree of varices 46.4%.

3.1.4. The red signs on the esophageal variceal vein

Table 4. Distribution of the red signs on the esophageal variceal vein

Red signs	Pts	%	P
Yes	15	17.9	<0.01
No	69	82.1	
Tol	84	100.0	

Red signs account for only 17.9%. Mostly of pts have no red signs: 82.1%.

3.1.5. Degree of bleeding due to esophageal varices bleeding

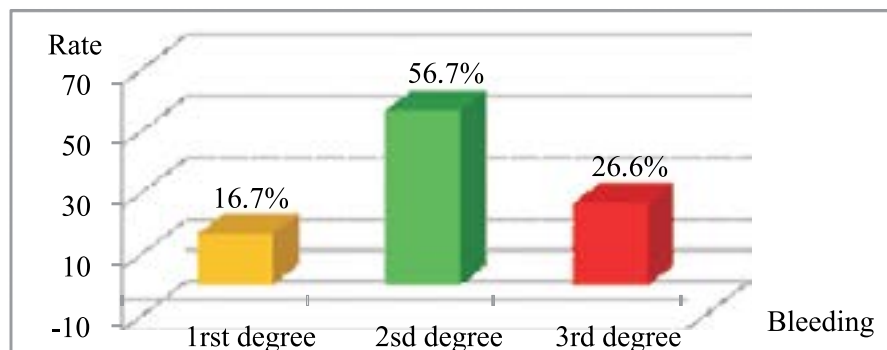


Chart 3.1. Degree of bleeding

Mild bleeding 56.7%, the mild bleeding was low 16.7% and severe bleeding 26.6%.

3.2. The relations between the image of varices and the risk of variceal bleeding

3.2.1. The relation of Child-Pugh and the degree of esophageal varices

Table 5. The relation of Child-Pugh and the degree of esophageal varices

Varices Child-Pugh	1rst		2nd		3rd		Tol	
	n	%	N	%	N	%	N	%
Child-Pugh A	2	8.3	2	9.5	4	10.3	8	9.5
Child-Pugh B	9	37.5	6	28.6	18	46.2	33	39.3
Child-Pugh C	13	54.2	13	61.9	17	43.6	43	51.2
Tol	24	100.0	21	100.0	39	100.0	84	100.0
P	< 0.01		< 0.01		< 0.01			

In the 3rd group, the Child-Pugh B: 6.2% higher than the Child-Pugh C (43.6%), $p < 0.01$.

3.2.2. Relation between the degree of varices and the red signs

Table 6. Relation of the degree of varices and the red signs

Red sign \ Varices	1 st		2 nd		3 rd		Tol	
	N	%	N	%	N	%	N	%
Yes	0	0.0	4	19.1	11	45.8	15	17.8
No	24	100.0	17	80.9	24	54.2	69	82.2
Tol	24	100.0	21	100.0	39	100.0	84	100.0
P			< 0.01		< 0.01			

Mostly the red signs belong to the 3rd grade of varices, without red sign in the 1st grade varices, $p < 0.01$.

3.2.3. Relation between the red signs and the diameter of portal vein

Table 7. Relation between the red signs the diameter of portal vein

Red signs	Yes	No
Diameter of portal vein (mm)	15.5 ± 1.1	12.1 ± 1.7
	$r_s = 0.635, p < 0.05$	

There was the relation between the red signs the diameter of portal vein $p < 0.05$.

3.2.4. Relation between the red signs and the severity of bleeding

Table 8. Relation between the red signs and the severity of bleeding

Red sign \ Bleeding	Mild		midle		severe		Tol	
	N	%	n	%	n	%	N	%
Yes	1	7.8	6	46.1	6	46.1	13	100.0
No	4	23.5	11	64.7	2	11.8	17	100.0
Tol	5	16.7	17	56.7	8	26.6	30	100.0
P	< 0.05							

Midle and severe bleeding in red sign group: 92.2%, higher than in those with no red sign: 76.5%, $p < 0.05$.

3.2.5. Relation between the varices and the number of platelets

Table 9. Relation between the varices and the number of platelets

Varices \ Plats	<150 K/ μ L		≥ 150 K/ μ L		Tol	
	N	%	N	%	N	%
1	19	26.4	5	41.7	24	28.6
2	18	25.0	3	25.0	21	25.0
3	35	48.6	4	33.3	39	46.4
Tol	72	100.0	12	100.0	84	100.0
P	< 0.01		> 0.05			

In group of low platelets (< 150 K/ μ L); mainly the varices belong to 2nd and 3rd degree in which the 3rd degree: 48.6%, $p < 0.01$.

4. DISCUSSION

4.1. Location of varices

Mostly the varices located in the 1/3 of lower part of esophagus: 80.9%; 2/3 of upper part: 9.1%. According to Nguyen Khanh Du 80.0% varices located in the 1/3 of lower esophageal part. The study of To Thi Tinh: the varices located in 1/3 of lower part: 80.0%. According to Nguyen Thi Thu Huong, varices located in 1/3 of lower part: 64.7%. Our results was similar to these study.

4.2. The forms of varices

In our study the bunch grape form of varices: 70.2%, the linear form only 29.8%.

The result of Phan Hong Nhan, the bunch grape form: 82.5%. That was similar to those of us.

4.3. The degree of varices

In our study, the 3rd degree of varices: 46.4%, the 1st degree was only 28.6%, and the 2nd degree of varices: 25.0%.

Tran Ngoc Luu Phuong studied on 115 pts have also showed: the 1st degree: 11.1%, the 2nd: 26.0%, and the 3rd: 48.1%.

The results of Nguyen Thi Thu Huong showed the 3rd: 65.7%, the 2nd: 21.3% and the 1st degree: 13.0%. Our result was similar.

4.4. The presence of red signs on varices

In our study there was only 17.9% varices with red signs, and varices none red signs: 82.1%, $p < 0.01$. The red signs in the study of Nguyen Thi Thu Huong: 58.0%.

4.5. Relation between Child-Pugh index and varices

The 3rd grade of varices were mostly in Child B and C, in Child B: 46.2% and higher than in Child C: 43.6% (< 0.01). That was concordant to those of Tran Ngoc Luu Phuong, the 2nd and 3rd varices in cirrhosis with Child-Pugh B and C: 67.8%, higher than in Child-Pugh A: 4.4%, $p < 0.02$.

4.5. Relation between varices and red signs

The results showed that the red signs appear only in 2nd and 3rd esophageal varices, no red signs in 1st grade of varices ($p < 0.05$). The result of Nguyen Thi Thu Huong, in 3rd grade of varices, the red signs: 75.0%, and 40.9% in 2nd grade of varices ($p < 0.05$). The bigger of the varices the thinner of the wall, so it's easy to rupture.

4.6. Relation between the red signs and the diameter of portal vein

The mean diameter of portal vein in group with red signs: 15.5 ± 1.1 mm, meanwhile in none red

signs group: 12.1 ± 1.7 mm, $p < 0.01$.

There was the relation between the red signs and the diameter of portal vein. According to Kieu Thi Phuong Nhan, the mean diameter of portal vein in red signs group: 1.33 ± 0.12 cm higher than in the none red signs group: 1.2 ± 0.1 cm, $p < 0.05$

4.7. Relation between the red signs and bleeding

In red signs group, the middle and severe bleeding: 92.2% higher than in the none red signs group: 76.5% ($p < 0.05$). According to Nguyen Thi Thu Huong, in red signs group, the severe bleeding: 60.3% and in none red signs group the bleeding was only 37.5%.

4.8. Relation between the varices and the platelets

In group with platelets < 150 K/ μ L, the 3rd grade of varices was 48.6%, ($p < 0.05$). Meanwhile in group with platelets > 150 K/ μ L, the 2nd grade of varices was dominant, $p > 0.05$. According to Tran Anh Tuyet, the platelets < 100 K/ μ L was the predictive factor of varices. The study of Hoang Trong Thang also showed that the cut -off point of platelets count in prediction of varices: 97 K/ μ L.

5. CONCLUSION

5.1. The endoscopic images of esophageal varices

- The 3rd grade of varices: 46.4%, the 1st: 28.6% and the 2nd: 25.0%.

- The red signs: 17.9%, and none red signs: 82.1%.

- The sites of varices: 1/3 lower part of esophagus: 80.9%.

5.2. Relation between the endoscopic images and the risk factors of esophageal variceal bleeding

- There was the relation between the red signs and the degree of esophageal varices $p < 0.01$.

- The bigger the diameter of portal vein the more severe of esophageal varices.

- There was a close positive relation between diameter of portal vein and the red signs ($r_s = 0.635$, $p < 0.05$). The mean diameter of portal vein in red signs group: 15.5 ± 1.1 mm, and in none red signs group: 12.1 ± 1.7 mm.

- The red signs related to the esophageal variceal bleeding; the middle and severe bleeding in red signs group: 92.2%; in the none red signs group only 76.5% ($p < 0.05$).

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