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The value of the endoscopic therapies in the treatment of rectal varices: a retrospective comparison between injection sclerotherapy and band ligation

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Abstract

This study consisted of 15 patients who had undergone endoscopic injection sclerotherapy (EIS) or endoscopic variceal ligation (EVL) for rectal varices. Ten of fifteen patients had histories of anal bleeding, and colonoscopy revealed signs of the risk of variceal rupture in the other five patients. EIS was perfomed in six of the fifteen patients, and the other nine patients underwent EVL. EIS was performed weekly from 2 to 4 times (mean, 3.0), and the total amount of sclerosant ranged from 3.2 to 5.8 ml (mean, 4.9 ml). After EIS, colonoscopy revealed shrinkage of the rectal varices in all six patients with no complications. EVL was performed weekly from 1 to 3 times (mean, 2.2), and bands were placed on the varices at 2–12 sites (mean, 8.0). After EVL, colonoscopy revealed both ulcers and shrinkage of the varices in the rectum in all nine patients. Eight of the nine experienced no operative complications. However, in the other case, colonoscopy revealed bleeding from ulcers after EVL. The average follow-up period after EIS or EVL was 30 months. The overall non-recurrence rate of rectal varices was 11 of 15 (73.3%); this includes five of the six patients (83.3%) receiving EIS and six of the nine who received EVL (66.7%). The non-recurrence rate was no difference between EIS group and EVL group statistically ($P = 0.57$) by reason of small number of cases.

In conclusion, EIS is some superior to EVL with regard to long-term effectiveness, complications on rectal varices.

Keywords: Endoscopic injection sclerotherapy; Endoscopic variceal ligation; Portal hypertension; Rectal varices

1. Introduction

Esophago-gastric varices are considered to be the most common complications in patients with portal hypertension, while ectopic varices, that is, those outside the esophago-gastric region, are less common. Colorectal varices have been reported in patients with cirrhosis [1,2]. Rectal varices are an infrequent, but potentially serious cause of hematochezia. Tsai reported a higher incidence of colonic varices in patients with extrahepatic portal vein occlusion than in those with liver cirrhosis and idiopathic portal hypertension [3].

Although endoscopic injection sclerotherapy (EIS) and endoscopic variceal ligation (EVL) for esophageal varices are well-established therapeutic procedures, there is no standardized treatment for rectal varices. We performed EIS or EVL for rectal varices. Here, we retrospectively evaluate the therapeutic effects and recurrence rates of rectal varices after EIS or EVL.

2. Patients and methods

2.1. Patients

This study consisted of 15 patients who had undergone EIS or EVL for rectal varices in our department from April 1996 to October 2004 retrospectively. There were six males and nine

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females, ranging in age from 45 to 81 years (mean, 63.5). Ten of the fifteen patients had a history of anal bleeding and colonoscopy revealed signs of high risk for variceal rupture in the remaining five patients.

The underlying pathology of portal hypertension was liver cirrhosis (LC) in ten patients, cirrhosis associated with hepatocellular carcinoma (HCC) in one, primary biliary cirrhosis (PBC) in two, extrahepatic portal vein obstruction (EHO) in one, and idiopathic portal hypertension in one. Seven patients had a Child·s classification of A, seven of B and one C. Of the 11 cases with cirrhosis, one was positive for hepatitis B surface antigen (HBs Ag), six were positive for anti-HCV antibody (HCV), and three had alcoholic liver diseases. The etiology in the remaining case was unknown.

2.2. Endoscopic findings

Endoscopic findings of rectal varices were evaluated according to the grading system outlined in'The General Rules for Recording Endoscopic Findings of Esophageal Varices' prepared by the Japanese Research Committee on Portal Hypertension [4]. The form (F) of the varices was classified as small, straight (F1), enlarged tortuous (F2), and large, coil-shaped (F3). The fundamental color of the varices was classified as either white (Cw) or blue (Cb). Red color sign (RC) referred to dilated, small vessels or telangiectasia on the variceal surface and grading was RC_1, RC_2, and RC_3. Rectal varices with grades of Cb, F2, and RC_1 were observed in all 15 patients.

2.3. Methods

EIS was performed in six patients (four had a history of anal bleeding). The underlying pathology of portal hypertension in EIS group was LC in five patients, and PBC in one. Two patients had a Child·s classification of A, and four of B (mean score; 6.8) (Table 1). EIS was performed weekly in six of the 15 patients using 5% ethanolamine oleate with iopamidol (5% EOI), which was injected intermittently under fluoroscopy. The fluoroscopic observation with infusion of 5% EOI was performed to determine the extent of the varices, taking care that 5% EOI did not flow into the systemic circulation.

EVL was performed in nine patients (six had a history of anal bleeding). The underlying pathology of portal hypertension in EVL group was LC in five patients, LC associated with HCC in one, EHO in one, IPH in one, and PBC in one. Five patients had a Child·s classification of A, and three of B, and one of C (mean score; 6.7) (Table 1). In nine patients, EVL was performed weekly using a pneumo-activate EVL device (Sumitomo Bakelite), and bands were placed on the varices. An overtube was not used during EVL.

EIS and EVL were performed until rectal varices were completely eradicated. Informed written consent was obtained from the patient prior to the procedures.

Table 1
Clinicopathological features of rectal variceal patients

	EIS($n=6$)	EVL($n=9$)
Gender (M/F)	1/5	5/4
Anal bleeding	4/6 (66.7%)	6/9 (66.7%)
Child-Pugh classification		
A	2	5
B	4	3
C		1
mean score	6.8	6.7
Pathogenesis		
LC	5	5
LC + HCC		1
PBC	1	1
EHO		1
IPH		1
Endoscopic findings		
F_2	6/6 (100%)	9/9 (100%)
RC_1	6/6 (100%)	9/9 (100%)

We evaluated the therapeutic effects, complications, and recurrence rates after EIS or EVL. We defined recurrence of rectal varices as bleeding from varices and possibility of RC sign.

2.4. Statistical analysis

Recurrence rates were calculated by the Kaplan–Meier method and were analyzed using chi-square test between the two group frequencies. AP value of less than 0.05 was considered to be statistically significant.

3. Results

EIS for esophageal varices had been performed in 14 of the 15 patients, and the period from EIS for esophageal varices to endoscopic therapies for rectal varices ranged from 6 to 195 months (mean, 48 months). The remaining one case had both esophageal and rectal varices.

EIS ($n=6$) was performed weekly from 2 to 4 times (mean, 3.0), and the total amount of sclerosant was ranged from 3.2 to 5.8 ml (mean, 4.9 ml). Five percent EOI was injected intermittently under fluoroscopy. There were no operative complications. After EIS, colonoscopy revealed shrinkage of the rectal varices in all six patients.

EVL ($n=9$) was performed weekly from 1 to 3 times (mean, 2.2), and bands were placed on the varices at 2–12 sites (mean, 8.0). After EVL, colonoscopy revealed both ulcers and shrinkage of the varices in the rectum in all nine patients, and there were no operative complications in eight of nine cases. However, in one case, colonoscopy revealed bleeding from ulcers after EVL. This case was an 81-year-old female with extrahepatic portal vein obstruction. Endoscopic clipping was performed on the oozing ulcers.