Med. J. Cairo Univ., Vol 62, No. 2, June (Suppl.) : 155-160, 1994.

Evaluation of Adjuvant Sclerotherapy After Splenectomy and Devascularization as a Treatment for Bleeding Oesophageal Varices

EL-ASHRY TAHA, M.D.; MOHAMED A. ABD EL-HAKEM, M.D.; OSAMA BAHGAT, M.D.; MOHAMED EL-HAGARY, M.D. and NABIL A. ALY, M.D.

The Department of Surgery, Faculty of Medicine, Benha University.

Abstract

This study was done on 30 patients, aged 18-40 years (26 were males and 4 were females), presented in Benha University Hospital with bleeding oesophageal varices. They were subjected to splenectomy and devascularization procedure. Postoperative adjuvant sclerotherapy was done for all patients with residual or recurrent oesophageal varices. The operative procedure was followed by 3 cases (9.9%) of early mortality; 2 from liver cell failure and one from fulminating chest infection. Persistent postoperative fever was observed in 6 patients (20%); 2 developed chest infection, one pleural effusion, and 3 wound infections. Mild ascites occurred in 3 patients (10%). Postoperative endoscopic findings showed complete disappearance of varices in 2 patients (6.7%), and marked decongestion of the varices in 25 patients (83.3%). 4 cases (13.3%) of mild variceal recurrence occurred after injection, which was controlled in few sessions of sclerotherapy. Transient minor complications, after the injection procedure were retrosternal pain in 3 patients (10%), dysphagia in 4 patients (13.3%), fever in 10 patients (33%) and superficial mucosal ulcerations in 2 patients (6.7%). No systemic or major local complications were observed in this study.

Introduction

BLEEDING oesophageal varices is considered to be the commonest cause of upper gastrointestinal bleeding in Egypt. Many factors participate in the outcome of the management of such cases[**1,2**].

The incidence of bleeding varices in patients with schistosomal hepatic fibrosis or mixed cirrhosis greatly differs, and ranged between an average of 7.7% up to 52%. The incidence is significantly related to the degree of varices[**2,3,4**]. The mortality rate of the first bleeding episode has ranged from 26% to 85% by Novis et al.[**5**] and the prognosis is better in non-cirrhotic than in cirrhotic patients[**6**].

Hassab[**7**] put forward the operation of gastro oesophageal decongestion and

splenectomy as a single measure to control oesophageal varices and prevent variceal bleeding. However, this procedure does not lead to complete elimination of varies, and residual or recurrent varices together with recurrent attacks of haematemesis can occur[**8**].

Endoscopic injection sclerotherapy aiming at control of varices or prevention of variceal bleeding is a reliable nonoperative procedure. Chronic injection sclerotherapy is a possible long term treatment[**9**]. However as a sole line of treatment, it also failed to eradicate the varices and to prevent recurrent bleeding[**10**].

The aim of the present work is to evaluate the effectiveness of post-operative injection sclerotherapy after splenectomy and devascularization procedure in treating patients with bleeding oesophageal varices as a preventive measure against re-bleeding from residual or recurrent varices.

Material and Methods

This work had been done on 30 patients (class A and B Child's classification) presented with history of bleeding oesophageal varices in Benha University Hospital in the period between 1987 to 1992, 26 patients were males and 4 were females. Their ages ranged from 18-40 years. All patients were clinically examined and subjected to upper gastrointestinal endoscopy aiming at evaluation of the grade, number, and any risk signs of oesophageal varices, as well as any other associated lesions. In addition, abdominal ultrasonography, chest x-ray, liver profile, complete blood count, blood urea, serum creatinine urine and stool analysis were done.

All of them were subjected to splenectomy and devascularization procedure, and postoperative injection sclerotherapy was done for those patients with residual varices one month after the operation at multiple sessions using ethanolamine oleate. All of them were instructed to be seen monthly for a year after complete disappearance of the varices, and they were subjected to endoscopy each time for any evident recurrent varices, which was injected in time.

Results

Preoperative endoscopic findings showed; 3 cases grade I, 12 cases grade II and 15 cases grade III oesophageal varices. Five patients showed high risk sign (red colour signs) among grade II and III patients.

In the present work, there were 3 cases (10%) of early postoperative mortality during the first month; two of them died from liver cell failure, and the third one from fulminating chest infection.

During the early postoperative period, most of the patients developed low grade fever which had persisted for more than a week and was rising in only 6 patients (20%); two of them developed chest infection, one pleural effusion and three had wound infection. All of them were controlled by medical treatment and drainage of the wound. Mild ascites had been observed in 3 patients (10%) which was controlled by diuretics.

The postoperative endoscopic findings showed that, the varices had disappeared completely in 2 patients (6.7%), who were graded preoperatively as grade I. The remaining 25 cases (83.3%) showed that the variceal columns were markedly decongested in comparison with their preoperative tense appearance together with disappearance of the high risk signs.

Intra variceal injection of 1-2 ml of ethanolamine oleate each time had succeeded in obliterating and making thrombosis of the varices over 2-5 sessions.

Four cases (13.3%) of mild variceal recurrence were detected during the follow up period; one of them presented by hematemesis, and all of them had been completely controlled by single dose of sclerosing material.

Three patients (10%) suffered from retrosternal pain which lasted for 12-24 hrs., mild transient dysphagia occurred in 4 cases (13.3%) for 1-2 days, and low - grade fever (37.5 - 38°C) was noticed in 10 patients (33.3%) which lasted only for one day. Superficial mucosal ulceration occurred in 2 patients (6.7%) which was controlled medically by Ranitidine tablets. (B.d for 3 weeks). No systemic complications were observed in this study (table I).

Table (1) : The Complications after Adjuvant Sclerotherapy.

Complications	No. of cases	Incidence	Duration
A) Systemic	—	—	—
B) Local :			
1. Major	—	—	—
2. Minor :			
* Retrosternal pain	3	10%	12-24 hrs.
* Dysphagia	4	13.3%	24-48 hrs.
* Fever	10	33.3%	24 hrs.
* Mucosal ulceration	2	6.7%	10 days

Discussion

Bleeding from oesophageal varices has undoubtedly been the most critical complication in patients suffering from portal hypertension[2]. Endoscopic Injection sclerotherapy is a recognized method for management and prevention of bleeding varices[11]. Being simple, safe, and considered a minor therapeutic procedure, it has become a popular line of treatment. However chronic injection sclerotherapy alone will not prevent recurrent variceal

hemorrhage; at least 50% of patients rebleed from varices within 4 years period [**10**]. Chronic injection sclerotherapy or injection of big amount of sclerosant material had resulted in some major complications which constitute a problem in the face of this line of treatment. Perforation of the oesophagus was reported in 1% [**12**]. Oesophageal ulcerations is potentially serious, not only because of the liability for immediate bleeding and late stenosis, but also because further sclerotherapy has to be postponed until there is healing. The incidence of which was 9% [**9**] and 27.8% [**13**]. Delayed necrosis and sloughing of the oesophageal wall in 2.5% may issue with mediastinitis, and or empyema [**14**]. Mesenteric venous thrombosis with bowel infarction was reported in 2 cases [**15**] after endoscopie sclerotherapy. Postinjection gastric varices had developed in 3.5% [**2**] and 8.3 [**13**] which showed unsatisfactory results after retrials of injection.

Splenectomy and devascularization is one of the popular and effective surgical line for treating patients with bleeding oesophageal varices but, it still has the disadvantage of re-bleeding which was reported to be 7% [**16**] and 22.9% [**17**].

In the present work, the addition of injection sclerotherapy as an adjuvant postoperative procedure, aiming at obliteration of the residual or recurrent oesophageal varices had succeeded in eradicating these varices completely by injecting a small amount of sclerosing material (1-2 ml) per each varix in 2-5 sessions.

The addition of postoperative sclerotherapy did not add any more risk of morbidity, or mortality including liver cell failure, ascites, chest and wound infection.

Only minor transient complications had been observed after postoperative injection sclerotherapy like retrosternal pain in 12%, dysphagia in 16%, pyrexia in 40%, and superficial mucosal erosions in 8% which are less than that reported by others performing elective sclerotherapy [**2,18**].

In this study no major complications were observed during the period of follow up except for one patient (3.3%) who presented with haematemesis which was controlled by one session of injection scterotherapy. The incidence of rebleeding after chronic injection sclerotherapy was reported to be (12.5%) and (25.7%) [**2,17**]. respectively. In this study, the absence of major complications following postoperative adjuvant sclerotherapy compared to those reported after chronic injection sclerotherapy can be attributed to eradication of residual or recurrent varices using a small amount of sclerosing material in few sessions.

According to Hassab [**19**]; splenectomy and devascularization affect much lowering of the intravariceal tension with slowing of its blood flow. This made postoperative injection procedure an easy one, decreases the needed amount of sclerosing matrial and gives a better chance of variceal thrombosis with decreasing the incidence of variceal recurrence or rebleeding.

The mortality rate in this study was 9.9% and this was less than that reported

by Hassab[**16**] 12%, and 17.5% by Soliman [**17**] after splenectomy and devascularization alone. While the mortality rate after sclerotherapy alone was 33.3% [**20**]. The relatively low mortality rate in the studied group, as compared to splenectomy and devascularization alone could be explained by the fact that, adjuvant sclerotherapy had decreased the incidence of rebleeding with its consequences after the operation.

Conclusion :

Patients with bleeding oesophageal varices fit for surgery, should be subjected to splenectomy and devascularization procedure, as this operation leads to much lowering of the intra variceal tension and slowing of its flow which consequently decreases the amount of sclerosing material to be injected postoperatively and lowering the incidence of re-vascularization of varices.

Adjuvant postoperative sclerotherapy is recommended for all patients with residual or recurrent varices, as it is proved to be effective in eradicating them with no major systemic or local complications.

Injection sclerotherapy after splenectomy and devascularization is superior to either procedure alone. Chronic injection sclerotherapy, should be restricted to high risk patients unfit for surgery.

References

1. KHALIL, A. and FADALI, A.M. : Some aspects of bleeding varices in bilharzia patients. Alex. Med. J., 8 : 533, 1962.
2. THAKEB, F.; ZAKARIA, S.; HUNTER, S. et al. : Sclerotherapy of acute hemorrhage from oesophageal varices in endemic hepatosplenomegaly. Gastrointestinal Endoscopy. An Egyptian review. 1st ed. by Fouad Thakeb and Sirag Zakaria. Cairo P. 19-29, 1988.
3. MOUSA, A.; ATTA, A.; EL-ROOBY, A.; et al. : Further studies on the portal hemodynamics in hepatosplenic bilharziasis. Proc. of the first International Symp. on bilh. Cairo Sept. (two parts) 65-75 & 77-93, 1964.
4. KHAIRY, M. : Bleeding oesophageal varices in bilharzia hepatic fibrosis. J. Egypt. Med. Assoc., 43 : 792, 1960.
5. NOVIS, B.H.; DUYS, P.; BERBEZAT, G.O.; et al. : Fiberoptic endoscopy and the use of the Sengstaken tube in acute gastro-intestinal hemorrhage in patients with portal hypertension. Gut, 17 : 258-263, 1976.
6. DICARLO, V.; STAUDACHER, C.; CHIESA, R. et al. : The role of cardiovascular hemodynamics and liver histology in evaluating bleeding cirrhotic patients. Ann. Surg., 190/2 : 218-226, 1979.
7. HASSAB, M.A. : Gastro-oesophageal decongestion and splenectomy in the treatment of oesophageal varices in bilharzia cirrhosis. Further study with report on 333 operation. Surg., 61 : 169-178, 1967.
8. KOYANAGI, N.; ISO, Y.; HIGASHI, H.; et al. : Recurrence of varices after devascularization. Intraoperative and post operative assessment by endoscopy Brit. J. Surg., 75, 9-11, 1988.
9. TERBLANCHE, J. ; NORTHOVER, J.M.A.; BORNMAN, P. et al. : A prospective controlled trial of sclerotherapy in the long term management of patients after oesophageal variceal bleeding. Surg. Gynecol Obst., 148 : 323-333, 1979.
10. LEWIS, J.W. : Survival and rebleeding after acute and chronic Injection sclerotherapy. Quoted from Endoscopic sclerotherapy of oesophageal varices. Gastroenterology series V.I. edited by Sivak M.V., 1984.
11. TAKASE, Y.; OZAKI, A.; ORILL, K.; et al. : Injection sclerotherapy of oesophageal varices for patients undergoing emergency and elective Surgery. Surgery, 92 : 474-9, 1982.

12. SHEMECH, E. and PAT, L. : Oesophageal perforation after fiberoptic endoscopic injection sclerotherapy for oesophageal varices. Lancet, II : 365-366, 1986.

13. CLARK, A.; McDOUGAL, B.; WESTABY D. et al. : Prospective controlled trial of injection sclerotherapy in patients with cirrhosis and recent variceal hemorrhage. Lancet, II, 552-554, 1980.

14. JOHNSTON, G.W. and RODGERS, H.W.: A review of 15 years experience in the use of sclerotherapy in the control of acute hemorrhage from oesophageal varices. Br. J. Surg., 60/10 : 797-800, 1973.

15. SIVAK, M.; STAOUT, D. and SKIPPER, G. : Mesenteric venous thrombosis as a possible complication of endoscopy sclerotherapy, a report of two cases. Am. J. Gastroent., 81/2 : 126-129, 1986.

16. HASSAB, M. : The azygos circulation time and mechanism of varix rupture in portal hypertension. Surg., 813 : 442-449, 1970.

17. SOLIMAN, M. : Combined sclerotherapy and splenectomy devascularization in treatment of variceal hemorrhage. M.D. Thesis General Surgery. Cairo Faculty of Medicine, 1986.

18. LEWIS, J.W.; CHUNG, R.S. and ALLISON, J. : Sclerotherapy of oesophageal varices. Arch. Surg., 115 : 467-480, 1980.

19. HASSAB, M. : Splenectomy and left gastric vessels ligation for the treatment of hematemesis from oesophageal varices in bilharzia hepatic fibrosis. Alexandria Med. J., 8/4 : 375-388, 1962.

20. TORBLANCH, J.; YAKOOB, H.I.; BORNMAN, P.C.; et al : Bleeding varices - a 5 year prospective evaluation of tamponade and sclerotherapy. Ann. Surg., 149 : 521-530, 1981.