Proceeding S.Z.P.G.M.I vol: 5 (1991), pp. 28-30.

Treatment of Esophageal Varices by Absolute Alcohol Sclerotherapy: Experience at the Shaikh Zayed Hospital

Anwaar Ahmed Khan, Nadeem Ullah Chaudry, Aziz ur Rehman
Department of Gastroenterology, Shaikh Zayed Postgraduate Medical Institute Lahore.

SUMMARY

Ninety patients with variceal bleeding were enrolled in the study to evaluate the efficacy of Endoscopic variceal sclerotherapy (EVS) using Absolute Alcohol on long-term basis. 60 patients completed the study, remaining 30 did not complete the study after two sessions of EVS. Two weekly sessions were carried out with end points of control of recurrent bleeding, reduction in the grade of varices or death. Of the 60 patients. who followed up from Jan. 1987 to Dec. 1989 , 35 (58.3%) had complete sclerosis of varices, 19 (31.6%) patients showed considerable reduction in the variceal size, 5 (8.3%) did not show any improvement. Use of absolute alcohol, as a sclerosant was observed to be an effective method of controlling recurrent variceal bleeding.

INTRODUCTION

There is high mortality ranging from 42-80%[1,2] and hospital cost related with acute bleeding from the esophageal varices as a consequence of portal hypertension. High incidence of rebleeding, 60% during the first hospitalization and 90% following one year[3], mandates active intervention as therapy. Different modes of treatment can be offered to reduce the high morbidity and mortality. These include Emergency portacaval shunt surgery, percutaneous transhepatic obliteration of varices, portoazygous disconnection using stapling devices[4-6]. Endoscopic variceal sclerotherapy (EVS) is an accepted mode of therapy as it is relatively cheap, can be repeatedly done and offers a high rate of success[7,8]. Several sclerosing agents have been used in different countries. Ethanolamine oleate (ETO) is popular in the United Kingdom and South Africa[9,10], polidocanol (PC) in the West Germany[11], sodium morrhuate (SM), sodium tetradecyl sulfate (STD) in the United States[12] and alcohol in India[13].

We used absolute alcohol for SVC as it is ubiquitous, cheap and has been reported safe[14]. This was a prospective study to evaluate the efficacy and safety of absolute alcohol as a sclerosant.

MATERIAL AND METHODS

Total 90 patients with esophageal variceal bleeding were enrolled, out of which 60 completed the study from Jan. 1987 to Dec. 1989. Routine upper gastrointestinal endoscopy (EGD) was performed in all patients with the history of acute upper G.I. bleeding or melena after hospitalization or on outpatient basis. Those patients found to have bleeding esophageal varices or the presence of varices while the active bleeding was absent, were included in the study.

Pregnant females, patients with G.I. tract cancer, peptic ulcer disease were excluded from the study. Grading of the varices was done as described earlier[15]. Sixty patients completed more than 3 sessions of EVS, remaining 30 patients had at least two sessions of sclerotherapy and subsequently did not follow up.

Repeat sclerotherapy was done at two weekly intervals till complete sclerosis was achieved or the grade improved by >50%. Once sclerotherapy was complete, these patients were followed up 6 monthly by endoscopy. Intravenous diazepam or pathedine were given in apprehensive patients, and 4% xylocaine to gargle used as topical anesthetic in all

patients. GIFXQ10 (Olympus) endoscope with NM-1K (Olympus) sclerotherapy needle were used. Absolute alcohol was used as sclerosant in alequots of 2 cc each by intravariceal method (Fig. 1). Injections were given within 5 cm of the esophagogastric junction in a circumferential fashion from caudal to cephalad progression. At each session of EVS, variceal grades, presence of ulcers and strictures were noted. If the patient had dysphagia in the presence of a stricture, esophageal dilatation (ED) was done. Dilatation of strictures was done by either guide wire based Savary dilators or mercury weighted Malloney dilators. The former was used in strictures <5mm (15 Fr.) diameter and the latter in >5mm dia strictures. End points of the study included control of bleeding, improvement in grades of varices, continued bleeding or death from bleeding.

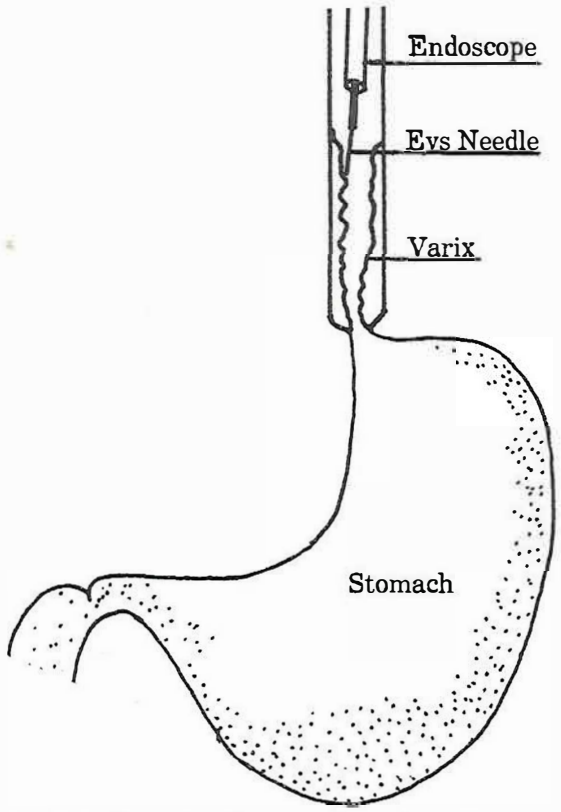

Fig. 1: Injection selerotherapy of esophageal varices by intravarical method.

RESULTS

Complete obliteration of varices was achieved in 35 (58.3%) out of 60 patients who followed up regularly throughout the study whereas 19 (31.6%) patients showed reduction in the variceal size by 2 grades or more. Mean age of patients was 40+17.9 (range 8-78 yrs), male to female ratio was 34 vs 26. Mean number of sessions of EVS were 5+4.5 (range 4-11) and the average amount of sclerosant used was 10.9 cc. Five (08%) patients did not show any improvement (Table 1). One patient died due to bleeding that continued despite sclerotherapy. Chest pain during EVS was invariably experienced, lasted for a short while. Significant complications included esophageal ulcers in 10 (16.6%) and esophageal strictures in 5 (8.3%) patients. Four patients with the stricture required bouginage achieving good results (Table 2). Fifteen (25%) patients had transient rise in temperature after EVS and did not require antibiotics.

Table 1:

Patient epidemiology	No.	Percent
Obliteration of varices	35	58
Reduction in grade by >50%	19	32
No improvement	05	08
Death from bleeding	01	1.6

Table 2:

Complications	No.	Percent
Transient chest pain	55	91.6
Ulcers from EVS	10	16.6
Strictures	05	8.3
Strictures needed dilatation	04	6.6
Transient fever	15	25

DISCUSSION

When Crafoord and Frenckner first described EVS in 1939[16] in treating a 17 year old female patient with esophageal variceal bleeding, it was the era of rigid esophagoscopy alone. The procedure required general anesthesia, fraught with high complication rate and therefore, did not gain much popularity until the introduction of flexible endoscopes. EVS now has well established role in arresting bleeding in acute variceal hemorrhage[17,18] as well as in long-term sclerotherapy[19].

In this prospective study we used absolute alcohol in EVS as a sclerosant to control recurrent variceal bleeding as described earlier[14]. Complete

sclerosis was achieved in 58.3% of patients. These results, when combined with > 50% improved grading in variceal size (31.6%), reached the total success rate of 89.9%. Similar results (82.6%) have been achieved in earlier study by Kochhar et al[20] when absolute alcohol was used. They compared absolute alcohol with other sclerosants i.e. 5% ethanolamine oleate (ETH) and 3% sodium tetradecyl sulfate (STD) similar results of 86.4% and 73.7% ($P > 0.05$) were achieved respectively.

In our study resultant ulcers from EVS (6%) were the major complication observed as in the reports by Sarin and Paoluzi[14,21]. Bleeding at the time of EVS was common (36%), but it stopped spontaneously and did not require blood transfusion, this has also been observed in other studies[19]. In one patient who presented with upper G.I. hemorrhage, continued to bleed despite SVC done twice and resulted in death before she could be taken to surgery in a stable condition. This patient had Child C liver cirrhosis and developed esophageal ulcers.

Stricture formation was observed in 5 patients, 4 of whom required bouginage without any complications. Dilatation of these strictures was carried out with either Malloney or guide wire based Savary dilators.

CONCLUSION

Absolute alcohol used as a sclerosant is inexpensive and effective in obliterating esophageal varices. The high ulceration rate is, however, a major complication.

ACKNOWLEDGEMENT

The author thanks to Mr. Naveed Amer, Editorial Assistant, PJMR, National Health Research Complex, Shaikh Zayed Hospital, Lahore for help in preparation of art work.

REFERENCES

1. **Graham DY, Smith JL.** The course of patients after variceal hemorrhage. *Gastroenterology 1981;* **80**: 800-9.
2. **Orloff MJ.** Emergency treatment of variceal hemorrhage. *J Surg 1979;* **22**: 550-3.
3. **Clark AW, Westaby d, Silk DA, et al.** Prospective controlled trial of injection sclerotherapy in patients with cirrhosis and recent variceal hemorrhage. *Lancet 1980;* **2**: 552-1.
4. **Orloff MJ, Bell RH, Jr, Hyde PV, et al.** Longterm results of emergenct shunt for bleeding esophageal varices in unselected patients with alcoholic cirrhosis. *Ann Surg 1980;* **192**: 325-40.
5. **Benner KG, Keefe EB, Keller FS, et al.** Clinical outcome after percutaneous transhepatic obliteration of esophageal varices. *Gastroenterology 1983;* **85**: 146-53.
6. **Sugiura M, Futagawa S.** Further evaluation of the Sugiura procedure in the treatment of esophageal varices. *Arch Surg 1977;* **112**: 1317-21.
7. **Sivac MV, Stout DJ, Skipper G.** Endoscopic injection sclerosis of esophageal varices. *Gastrointest Endosc 1981;* **27**: 52-7.
8. **Terblanche J, Yakoob HI, Bornman PC, et al.** Acute bleeding varices: a five year prospective evaluation temponade and sclerotherapy. *Ann Surg 1981;* **194**: 521-9.
9. **Westaby D, William R.** Elective sclerotherapy-technique and results. *Endoscopy 1986;* **18(suppl)**: 28-31.
10. **Terblanche J, Bornman PC, Kahn D, et al.** Failure of repeated injection sclerotherapy to improve long-term survival afteresophageal variceal bleeding. A five year prospective controlled clinical trial. *Lancet 1983;* **2**: 1328-32.
11. **Witzel L, Wolberg S, Merki H.** Prophylactic endoscopic sclerotherapy of esophageal varices: a prophylactic controlled study. *Lancet 1985;* **1**: 773-5.
12. **Fleischer D.** Endoscopic therapy of upper gastrointestinal bleeding in humans. *Gastroenterology 1986;* **90**: 212-34.
13. **Chawla YK, Dilawari JB, Kaur U.** Variceal sclerotherapy in cirrhosis. *Indian J Gastroenterol 1988;* **7**: 215-7.
14. **Sarin SK, Sachdeva GK, Nanda R, Vij JC, Anand BS.** Endoscopic sclerotherapy using absolute alcohol. *Gut 1985;* **26**: 120-4
15. **Paquet KJ.** Ten years experience with paravariceal injection sclerotherapy of esophageal varices in children. *J Pediatr Surg 1985;* **30**: 109-12.
16. **Crafoord C, Frenckner P.** New surgical treatment of varicose veins of the esophagus. *Acta Otolaryngol 1939;* **27**: 422-9.
17. **MacDougall BD, Theodossi A, Westaby D, et al.** Increased long-term survival in variceal hemorrhage using injection sclerotherapy. *Lancet 1982;* **1**: 124-7.
18. **Terblanche J, Northover JM, Bornman P, et al.** A prospective controlled trial of sclerotherapy in the long-term management of patients after esophageal variceal bleeding. *Surg Gynecol Obstet 1979;* **148**: 323-33.
19. **Sarles HE, Sanowski RA, Talbert G.** Course and Complications of endoscopic variceal sclerotherapy: a prospective study of 50 patients. *Am J Gastroenterol 1985;* **80**: 595-9.
20. **Kochhar R, Goenka MK, Mehta S, et al.** A comparative evaluation of sclerosants for esophageal varices: a prospective randomized controlled study. *Gastrointest Endosc 1990;* **36**: 127-30.
21. **Paoluzi P, Pietroiusti A, Ferrari S, et al.** Absolute alcohol in esophageal vein sclerosis. *Gastrointest Endosc 1988;* **34**: 400-2.

The Authors:

Anwaar Ahmed Khan MD, FACP, FACG
Associate Prof. and Head,
Department of Gastroenterology,
Shaikh Zayed Postgraduate Medical Institute,
Lahore.

Address for Correspondence:

Anwaar Ahmed Khan
Associate Prof. and Head,
Department of Gastroenterology,
Shaikh Zayed Postgraduate Medical Institute,
Lahore.