The Korean Journal of Internal Medicine
Vol. 3. No. 1. January. 1988

Intramural Hematoma of the Esophagus: Unusual Complication of Esophageal Variceal Sclerotherapy

Young Tae Bak, M.D., Zin Mock Yu, M.D., Jae Youn Cho, M.D.,
Jin Ho kim, M.D., Jong Guk Kim, M.D. and Chang Hong Lee, M.D.

Department of Internal Medicine, College of Medicine, Korea University, Seoul, Korea

The authors report a case of esophageal hematoma in a 35-year-old man after esophageal variceal sclerotherapy with intravariceal injection of 5% ethanolamine oleate. A huge submucosal hematoma of the esophageal wall was demonstrated endoscopically and radiologically. Resolution occurred spontaneously after conservative treatment.

Key Words: *Hematoma, Esophagus, Variceal Sclerotherapy*

INTRODUCTION

Endoscopic variceal sclerotherapy has become widely used to treat patients with portal hypertension and esophageal varices, either during acute variceal bleeding or as elective chronic therapy. But complications of sclerotherapy are not rare.[1] This report deals with an esophageal intramulal hematoma, an unusual complication of endoscopic variceal sclerotherapy that is not previously described in Korea.

CASE

A 35-year-old man was admitted to the hospital because of hematemesis one month prior to admission. He had been treated with NPH insulin, 30 units daily, due to known diabetes mellitus for the past 2 years.

On admission, hemoglobin was 11.1 g/dl and alkaline phosphatase was 100 IU/l, but other liver function tests were within normal ranges. Serum HBs Ag was negative and alpha-fetoprotein was below 5 ng/ml. Bleeding time, prothrombin time, activated partial thromboplastin time and platlet counts were all norrnal.

Upper gastrointestinal fiberscopy revealed slightly bluish, beaded esophageal varices, located in the lower esophagus, with no sign of redness (Fig. 1). No evidence of recent bleeding was found. Sclerotherapy was started with 99.9% ethanol intravariceally. After discharge, 2 more sessions of sclerotherapy were done with intravariceal injections of 5% ethanolamine oleate in one week intervals. Two days after the third session, severe swallowing difficulty and retrosternal pain developed. On endoscopy, a huge submucosal bulge in the lumen of the esophagus 25 cm distal to the upper incisors was found with dark bluish mucosal discoloration (Fig.

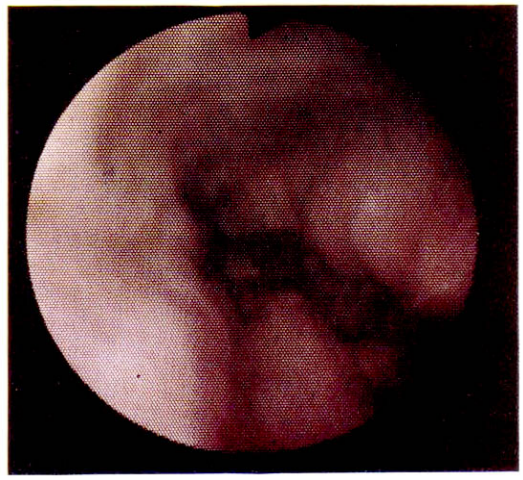

Fig. 1. *Presclerotherapy endoscopic finding showing slightly bluish beaded esophageal varices with no sign of redness on the distal esophagus.*

Address reprint requests: Young Tae Bak M.D., Department of Internal Medicine, Korea University Guro Hospital, #80 Guro-dong, Guro-gu, Seoul 152-050, Korea

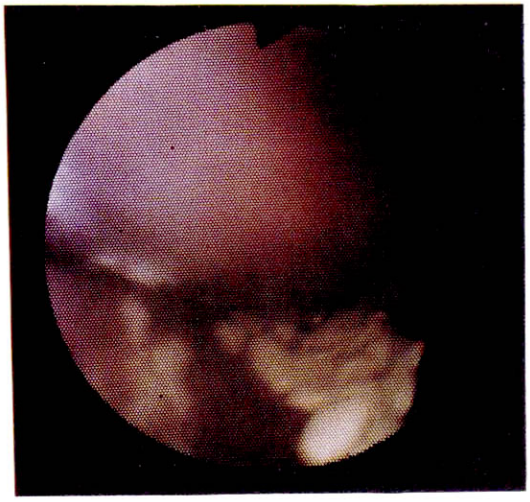

Fig. 2. *Endoscopic finding on the second day after the third session of sclerotherapy showing smooth mucosal bulging with nearly total esophageal luminal obstruction and retained previously taken medication.*

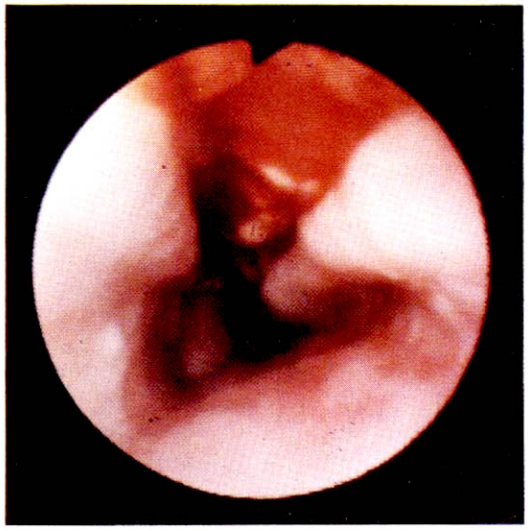

Fig. 4. *Endoscopic finding on the 14th day after the third sesion of sclerotherapy showing a longitudinal mucosal defect on the site of previously noted hematoma.*

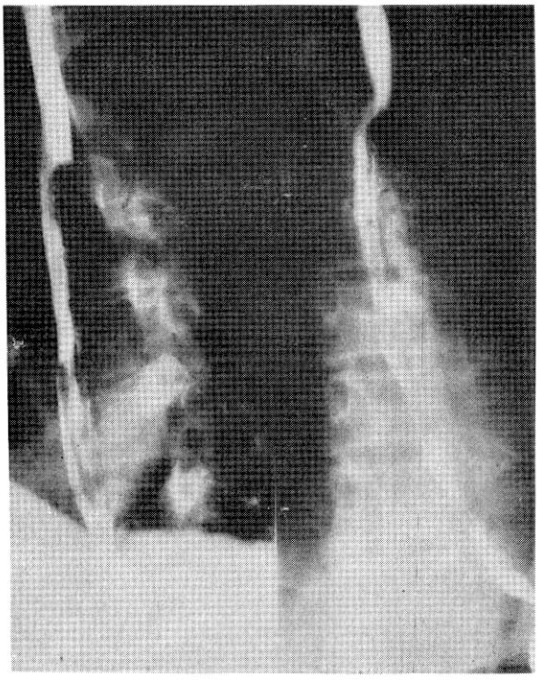

Fig. 3. *Esophagogram showing large longitudinal filling defect in the lower two thirds of the esophagus.*

2). The esophageal lumen was nearly occluded. Barium esophagogram revealed a large smooth filling defect in the lower two thirds of the esophagus with near total occlusion (Fig. 3). Because of the submucosal nature of the mass, an intramural hematoma was presumed as the cause. Supportive care with parenteral nutrition was given and liquids could be swallowed with mild discomfort on the seventh day after sclerotherapy. Two weeks after the third sclerotherapy, repeat endoscopy revealed that the hematoma had completely disappeared and was replaced with a longitudinal mucosal defect (Fig. 4).

DISCUSSION

Sclerotherapy of esophageal varices is commonly used to treat patients with portal hypertension. About 10-15% of the patients undergoing sclerotherapy may have significant complications.[1] Minor complications such as retrosternal discomfort, fever, mild tachycardia, and ulceration of the esophageal wall as well as major complications such as bleeding, esophageal wall necrosis, perforation, empyema, mediastinitis, and late onset stenosis have been described.[2]

Many causes of intramural hematoma have been described as resulting from emetics,[3] after ingestion of a foreign body and endoscopic instrumentation,[4] following remote trauma,[5] after medication,[6] or as spontaneous events in a patient with impaired hemostasis such as in thrombocytopenia,[7] in

hemophiliacs[8] and in patients receiving anticoagulation therapy,[4] as well as in patients with normal hemostasis.[9]

Only 4 cases of intramural hematoma of the esophagus after sclerotherapy have been described in the English literature[10-13] Harris *et al.*[10] reported a case of intramural hematoma after sclerotherapy with sodium tetradecyl sulphate and the patient died of bacteremia. Van Steenbergen *et al.*[11] described a case after the fourth sclerotherpy session with 1% polidocanol paravariceally and intravariceally in a 43-year-old woman with hematemesis and she recovered with conservative management. Korula[12] described a case after sclerotherapy with 1.5% sodium tetradecyl sulphate intravariceally in a 45-year-old man. Conservative treatment was done and no stricture or mucosal lesion was found 5 months later. Jones *et al.*[13] experienced a case after the second injection with 5% ethanolamine oleate intravariceally in a 50-year-old woman with alcoholic cirrhosis. After conservative management the hematoma spontaneously discharged into the lumen leaving a longitudinal ulcer. 4 weeks later, the ulcer had healed without stricture formation.

Coagulation profiles in Van Steenbergen's case and ours were normal. In two cases[12,13] and ours intravariceal technique was used and in one case[11] both intravariceal and paravariceal techniques were used. The intravariceal technique was found to cause less retrosternal pain than the paravariceal technique.[14] Even if intravariceal injection is attempted, extravasation of the sclerosant into the surrounding tissue has been noted.[15] It seems probale, therfore, that injection in the present case and in the others resulted in intramural extravasation of blood and sclerosant leading to mucosal dissection.

Diagnosis of esophageal hematoma can readily be made radiologically and endoscopically. On an esophagogram the unusual finding is an elongated radiolucent filling defect with smooth borders. Since posterior hematomas are relatively common, this appearance is often best shown on a lateral view.[9] From a review of 26 patients with esophageal hematoma, Shay et al.[16] found that in patients with normal hemostasis, the hematoma always presented radiologically as a single lesion involving the distal esophagus and in patients with impaired hemostasis, the hematoma either spared the distal esophagus or occured at multiple sites in 60% of the cases. Early fiberoptic endoscopy is useful in establishing the diagnosis. Intraluminal bulging of the mucosa with a characteristic dark bluish discoloration indicates the presence of a submucosal hematoma.[6,11-13,16]

The hematoma usually resolves spontaneously within 1 to 3 weeks,[4,9,11,13] So management of such lesion is preferably conservative, as is evident in our case. Resolution may occur without residual effects, such as stricture or dysmotility.

REFERENCES

1. Marzuk PM, Schwartz JS: *Endoscopic sclerotherapy for esophageal varices. Ann Intern Med 100:608, 1984*
2. Ayres SJ, Goff JS, Warren GH: *Endoscopic sclerotherapy for bleeding esophageal varices: effects and complications. Ann Intern Med 98:900, 1983*
3. Joff N, Millan VG: *Postemetic dissecting intramural hematoma of the esophgus. Radiology 95:379, 1970*
4. Benjamin B, Hanks TJ: *Submucosal dissection of the oesophagus due to hemaorrhage: a new radiographic finding. J Laryngol Otol 79:1032, 1965*
5. Williams B: *Oesophageal laceration following remote trauma. Br J Radiol 30:666, 1957*
6. Piccione PR, Winkler WP, Baer JW, Kotler DP: *Pill-induced intramural esophageal hematoma. JAMA 257:929, 1987*
7. Ashman FC, Hill MC, Saba GP, Diaconis JN: *Esophageal hematoma associated with thrombocytopenia. Gastrointest Radiol 3:115, 1978*
8. Oldenburger D, Gundlach WJ: *Intramural esophageal hematoma in a hemophiliac. An unusual cause of gastrointestinal bleeding. JAMA 237:800, 1977*
9. Smith G, Brunnen PL, Gillanders LA, Teo HS: *Oesophageal apoplexy. Lancet 1:390, 1974*
10. Harris OD, Dickey JD, Stephenson PM: *Simple endoscopic injection sclerotherapy of oesophageal varices. Aust NZ J Med 12:131, 1982*
11. Van Steenbergen W, Fevery J, Broeckaert L, Ponette E, Baret A, De Groote JD: *Intramural hematoma of the esophagus: unusual complication of variceal sclerotherapy. Gastrointest Radiol 9:293, 1984*
12. Korula J: *Pseudotumor of the esophagus: an unusual complication of esophageal variceal sclerotherapy. Am J Gastroenterol 80:954, 1985*
13. Jones DB, Frost RA, Goodacre RL: *Intramural hematoma of the esophagus-a complication of endoscopic injection sclerotherapy. Gastrointest Endosc 32:239, 1986*
14. Sarin SK, Nanda R, Sachdev G, Chari S, Anand BS, Broor SL: *Intravariceal versus paravariceal sclerotherapy: a prospective, controlled, randomised trial. Gut 28;657, 1987*
15. Muciéntes F, Korula J, Kage M: *Histopathology of the esophagus: effect of endoscopic variceal sclerotherapy. Hepatology 3:846 (abstr.), 1983*
16. Shay SS, Berendson RA, Johnson LF: *Esophageal hematoma. Four new cases, a review, and proposed etiology. Dig Dis Sci 26:1029, 1981*