RETROSPECTIVE STUDY OF COMPLICATIONS OF SCEROTHERAPY IN OESOPHAGEAL VARICES USING FIBREOPTIC ENDOSCOPE

THESIS

Submitted for the partial fulfilment
of Master degree of surgery

BY

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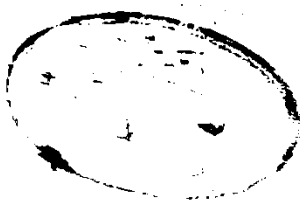

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A C K N O W L E D G E M E N T

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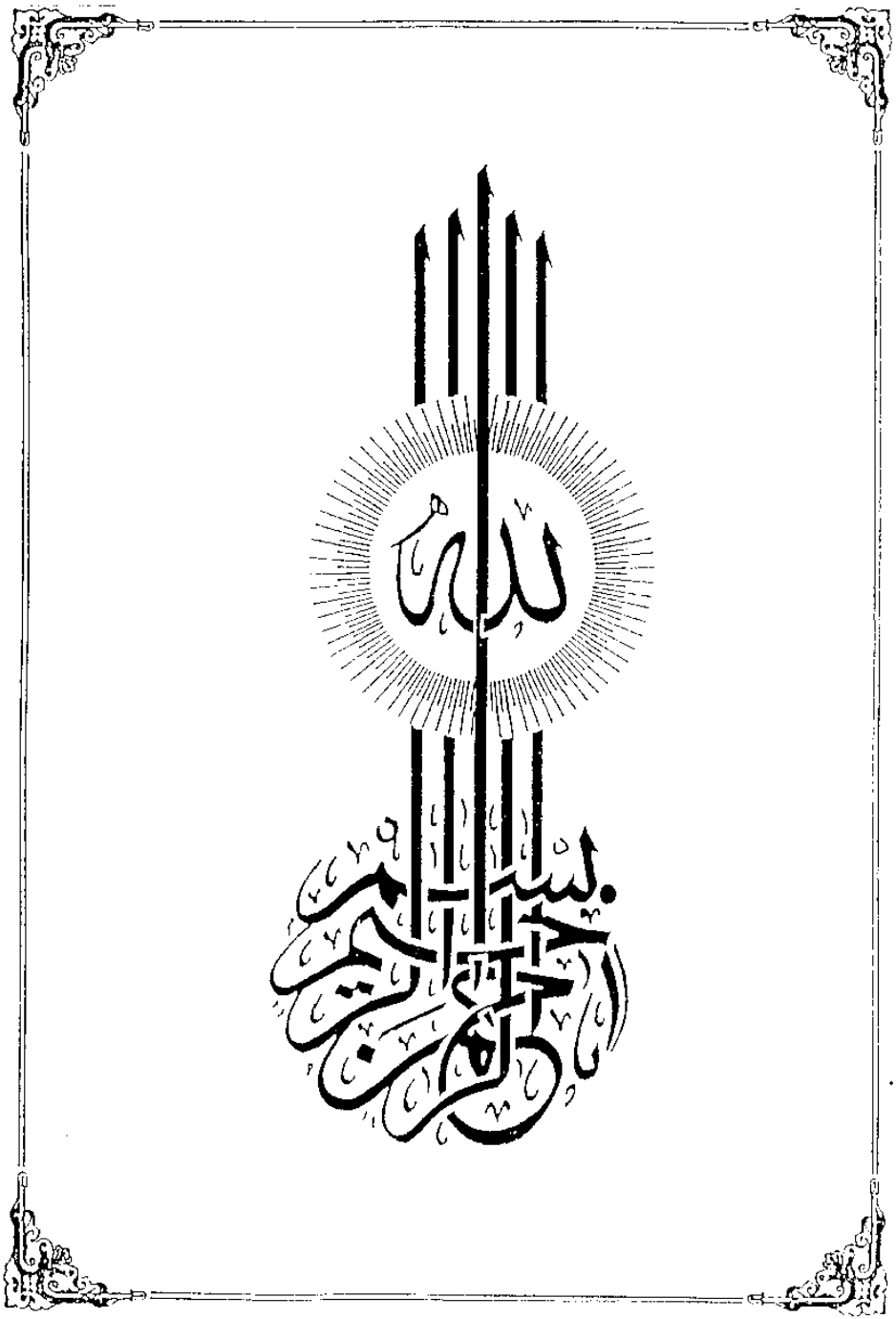

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Bleeding oesophageal varices are the commonest caus of upper gastrointestinal haemorrhage in this country, du to the prevalence of schistosomiasis and chronic hepatiti

The treatment of this condition is still unsatisfac ory. Conservative treatment is ineffective and patien coming to surgery are shrinking in number, because bett results call for more Stringent criteria of selection.

Though variceal in jection sclerotherapy is a lo known weapon (Crafoord & Frenckner, 1939) in our therap utic armamentarium against this condition, it did not ga wide popularity in the past. However, there is a rene interest in its use, due to the poor results of conventi nal treatment of a large sector of these patients inclu ing the acutely bleeding , the poor operative risks, th with poor heparic unctional reserve and postoperative recurrences.

An additional cause for this renewed interest is widespread use and simplicity of fibreoptic endoscopy injection sclero therapy is not without its hazards, th are very few serious complications which concentrate a pain, postinjection bleeding and postinjection oesopha

INTRODUCTION

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The present study is a retrospective analysis of the complications that developed in patients treated for oesophageal variceal heamorrhage by sclero therapy using the fibreoptic endoscope.

REVIEW OF LITERATURE

HISTORICAL REVIEW

★ History of endoscopic variceal sclerotherapy

The use of injection sclerotherapy was first reported by Crafoord and Frenckner in 1939, Their paper, documenting a single patient who had previously bled from oesophageal varices, stimulated considerable interest mainly in the otolaryngological literature. In 1955 Macbeth, the major proponent of injection sclerotherapy in the United Kingdom, pointed out that it was "fashionable among writers on the surgery of portal hypertension to dismiss thrombosing injections as not having justified themselves and as unlikely to do so because new venous channels continually open up". He felt that this view was due to ignorance of successful work published in otolaryngological journals.

Macbeth improvised a special needle to be used as injector through the rigid oesophagoscape under general anaesthesia. Sporadic reports then followed (Denck 1971, Rasch & Paquet 1973), both also about intramural injections using rigid instruments under general anaesthesia

Johnston and Rodgers (1973) used the same method to control acute haemorrhage but injected the sclerosant directly into the varices. Johnston (1977) reported the use of the method both in urgent and elective situations and referred to the possible use of flexible instruments.

The introduction of flexible fibreoptic endoscopy and fexible injectors has meant that the technique is easier, there is early and accurate detection of the bleeding source, there is no need for geeral anaesthesia and then injection sessions can be repeated as frequently as required.

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..SURGICAL ANATOMY

* The portal venous system

This includes all the veins draining the abdominal parts of the gastrointestinal tract with the exception of its lower most part, the spleen, the pancreas and the gall bladder. The blood is conveyed to the liver by the portal vein, in the liver this vein ramifies and ends in capillary like vessels termed sinusoids, from which the blood is conveyed to the inferior vena cava by hepatic veins. The portal vein and its tributaries are characterised by the absence of valves,

* Portal vein

It is formed by union of the splenic and the superior mesenteric veins, at the level of the second lumbar vertebra behind the neck of the pancreas. Its position diameter, tortuosity and lie varies widely(Rousselot, 1940). About on fifth of the patients have abnormalities of the portal vein. (Mac Pherson, 1958).

The following desciption is the one mostly encountered. The vein passes behind the pancreas and duodenum anterior to the inferior venacava. It may be separated from the cava by the upper part of the head of pancreas. When it passes upwards and inclines to the

right. Its anterior relations are; the first part of the duodenum, the bile duct and the gastro- duodenal artery. The inferior vena cave and the opening to the lesser sac form its posterior relations. As it passes in the fre edge of the lesser omentom to the porta hepatis, it is placed behind the bile duct and hepatic artery, the former lying to the right of the latter . The hepatic plexus of nerves and numerous lymhatics surround it.

At the porta hepatis, the vein divides inte right and left branches which accompany the corresponding brahches of the hepatic artery into the substance of the liver.

The right branch receives the cystic vein. The left branch is joined in front by the para - umbilical veins and by the ligamentum teres, which represents the obliterated umbilical vein. It is connected to the inferior vena cava by the ligamentum venosum which represenis the obliterated ductus venosus.

Tributaries:-

1- Splenic vein .

2- Superior mesenteric vein.

3- Left gastric (coronary) vein.

4- Right gastric vein.

5- Paraumbilical veins

6- Cystic vein.

The coronary or left gastric vein drains the upper and right parts of the stomach and lower and of the oeso phagus. It passes from right to left along the lesser curvature of the stomach between the 2 layers of the lesser Omentum, till the junction of the oesophagus the stomach where it recieve the oesophageal veins and turns backwards and passes downwards and to the right to end in the portal vein at the upper border of the first part of the durodenum. In 24% of cases, it ends into the splenic or superior mesentenic vein (Gilifillan,1950).

The splenic vein starts by union of 6 - 8 branches which return blood from the spleen, forming asingle vessel. The splenic vein traverses the lieno-renal ligament accompanying the splenic artery close to the tail of the pancreas. The vein grooves the upper part of the posterior surface of the pancreas to which it is connected by numerous branches it lies at a lower level than its artery . It is separted from the left sympathetic trunk and crus of the diaphragm by the left renal vessels, and from the abdominal aorta by the superior mesentaric artery and the left renal vein. This last relation is of great surgical importance, as it shows that the splenic and left renal

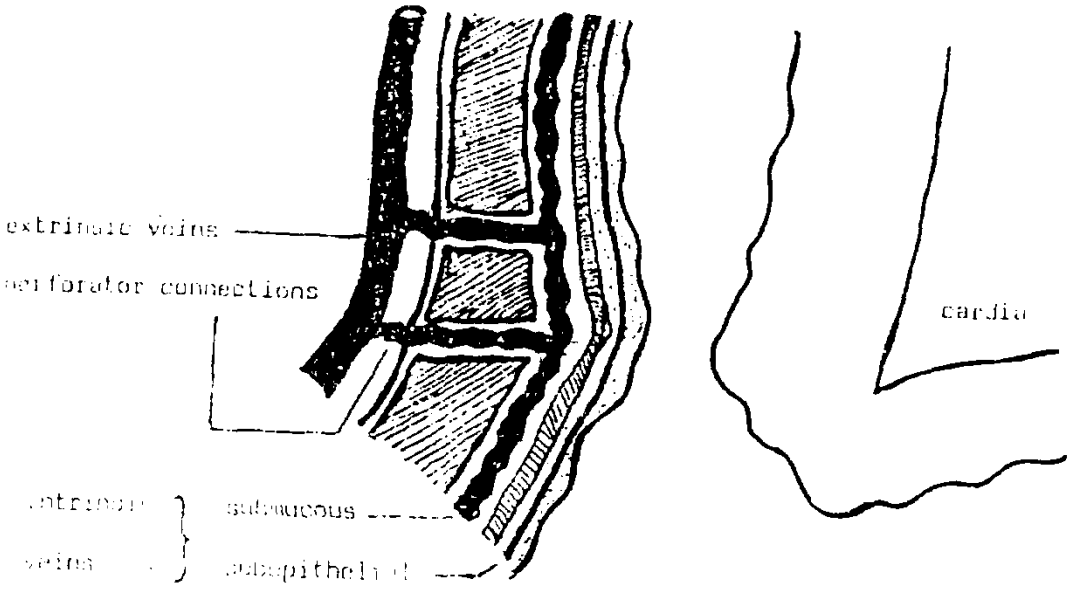

FIGURE 1

VEINS OF THE LOWER OESOPHAGUS

through the left and short gastric veins.

In portal hypertension varicosity affects the intrinsic and extrinsic groups as well as the perforator system of veins, mostly in the cardia and lower oesophagus but extending up the oesophagus and down the stomach for a variable length.

Only the superficial varices, that is the submucous and subepithelial, are the dangerous ones that bleed (Macpherson 1979) . The lower 5 cm segment of the oesophagus is the source of bleeding in nearly all cases of variceal bleeding (Walker 1964).

Dilated perforators form a direct patent connection to the high pressure portal system (Figure 2) and are the main factor which contributes to the severity and maintenance of the bleeding or its renewal from a ruptured varix. Unless they are occluded at injection sclerotherapy failures or recurrences may occur so sclerosant injection should be intravariceal and at multiple levels in the same varix particulary in the lower segment of the oesophagus.

It appears that the sclerosant solution starts action immediately after its injection, and that a sufficient quantity of it stays enough time in the varices to produce the desired damage. There will be overflow into

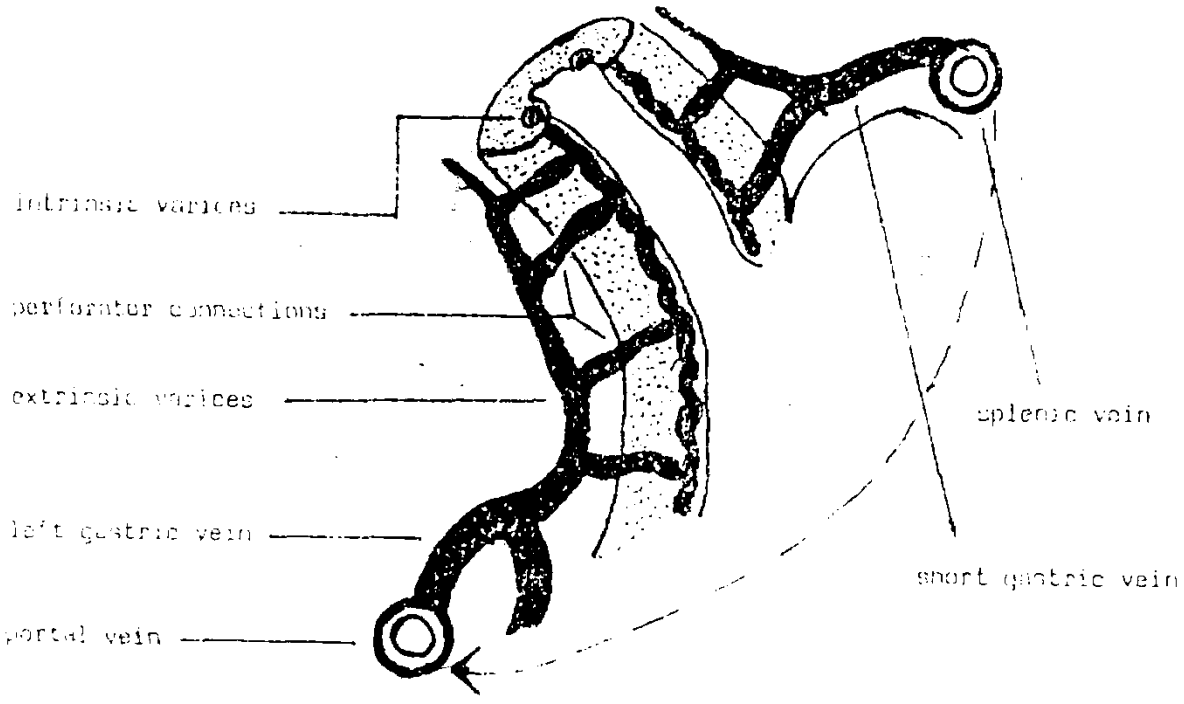

FIGURE 2

[illegible] INTRINSIC AND EXTRINSIC VARICES AS THEY APPEAR AT LAPAROTOMY