Symposium* on
Surgical Treatment of Circulatory Disturbances
due to Hepatic Damages

(Chairman: Prof. Dr. Hajime Imanaga)

1. Prehepatic Block of Portal Vein
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4. Surgical Treatment of Portal Hypertension,—with Special Reference to the Feature of Intrahepatic Circulatory Disturbances
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1. Prehepatic Block of Portal Vein†

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Patients with prehepatic obstruction, experienced during these 8 years in the 2nd Department of Surgery, Kyushu University School of Medicine were clinically analyzed as follows.

Incidence of prehepatic block, confirmed by splenoportography, was 8% (18 cases out of 232 portal hypertensions), including 10 children, 8 adults. Hematemesis occurred in 61% (11/18), and esophageal varices were seen in 77% (14/18). Especially all 10 children possessed high degree of varices. Function of the liver and histological findings of these cases were mostly normal or little impaired. Site of obstruction and its incidence were that portal trunk obstruction was 53%, obstruction at hepatic pedicle 17%, obstruction of splenic vein 12%, and cavernomatous transformation of the portal system 17%.

For child cases in early stage of our experience, splenectomy alone had been performed. Postoperative observation revealed that splenectomy was effective for only one case for eliminating esophageal varices, being not effective for remaining cases. Recurrence of hematemesis was seen in 4 out of 6 cases. In contrast to the child patients, none of the adult group showed recurrence of hematemesis after splenectomy. Treatment of recurrent cases after splenectomy was very of nuisance. Splenorenal shunt operation is mostly incapable because of obstruction of splenic vein after splenectomy, and portacaval

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anastomosis is rarely indicated for these cases. The author attempted mesenterico-caval shunt with autovene graft for 2 cases and succeeded in one. Another case followed thromboses in graft postoperatively and hematemesis recurred.

These results lead us to the thought that a surgeon, as a rule, should not undertake splenectomy for child congestive splenomegaly, but proceed with the venous anastomoses for decreasing the hypertension. Principally a splenorenal shunt technique is favorable for these cases. However, it has so far been recognized as that the anastomosis frequently lost its patency. The author recently has developed a new technique.

Fig. 1. A New Technique of Splenorenal Shunt Devised by the Author

A: is autovene graft, transferred from the iliac vein bifurcation. Mechanical suture method for vein anastomosis is desirable for making the anastomotic site smoother.

of splenorenal shunt for guaranteeing patency of the stoma as depicted in Fig. 1. The device is based on the idea of making the juncture angle between the splenic vein and the renal vein to be consistently physiologic acute. Mechanical suture method of blood vessel using the author's apparatus was also applied. Clinical experience of 17 cases has proved that patency of the anastomosis was very satisfactory (88%) as compared with the result by the usual technique. It is also easily applicable for child and infant cases, whose blood vessel is too small for the usual technique of vascular surgery. Recent 2 child cases were successfully treated with this new technique of splenorenal anastomosis, and the preoperative esophageal varices have completely disappeared in both postoperatively.

Summarizing these experiences, it is concluded that prehepatic obstruction, especially of children is featured by high incidence of esophageal varices as well as hematemesis, and it is generally not amenable to splenectomy alone. Should portal hypertension exist in such a patient and splenectomy alone be performed, the golden opportunity has been lost; following splenectomy its vein usually thromboses and thereafter cannot be employed for anastomosis. Elective method of treatment is one stage splenorenal shunt, and the author's technique is believed to meet well the purpose.

2. The Treatment of Portal Hypertension

—With Reference to Splenocaval Shunt—

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The construction of a portal-systemic shunt, either portacaval or splenorenal shunt, has been generally considered to be the method of choice for surgical treatment of portal hypertension. It is also recognized that splenorenal shunt has a lower operative risk and fewer late complications such as duodenal ulceration and acute hepatic failure or ammonia intoxication than portacaval shunt\(^4,5\). However, because of an increased incidence of postoperative variceal bleeding and shunt closure, the procedure has been largely abandoned.

Considering these facts, we hoped to minimize the disadvantage of splenorenal shunt, moreover, to make good use of its theoretical superiority. Recently, we have devised a new operative procedure that is, "Splenocaval shunt" for the

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