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Proximal Splenorenal Shunt (PSRS) for Management of Upper Gastrointestinal Bleeding due to Extra Hepatic Portal Vein Obstruction (EHPVO)

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Abstract
Background: *Extrahepatic portal vein obstruction (EHPVO) is a common cause of variceal bleeding in a children and young adult in India. Management with endoscopic means provide temporary palliation. Proximal splenorenal shunt (PSRS) is definitive & provides long term control of variceal bleed.*
Methods: *Between January 2011 & October 2017 we performed 20 elective proximal splenorenal shunts for EHPVO*
Results: *Postoperative mortality was zero, rebleeding occurred in 2 cases, pneumococcal infection & encephalopathy was never detected in any patient & no patient died during follow up.*
Conclusion: *Proximal splenorenal shunt for bleeding varices due to EHPVO is a definitive procedure with very low mortality, morbidity, and better long term result.*
Keywords: *Extrahepatic portal vein obstruction(EHPVO), proximal splenorenal shunt (PSRS).*

Introduction

Extrahepatic portal vein obstruction is the most common cause of variceal bleeding in children and a common cause in young adults in developing countries. No definite cause has been established so far.But it has been found that most of the patients belong to low socio-economic background. In the current period it is more frequently managed by less invasive endoscopic procedures like endoscopic sclerotherapy (EST) and endoscopic variceal ligation (EVL).They are effective for obliteration of varices and less traumatic. Long term results are not so much attractive as recurrent bleeding is seen in about one third of cases.[1] Surgery in the form of proximal splenorenal shunt is less preferred due to the gravity of surgery in form of mortality and morbidity and postoperative complications like recurrent bleed, shunt block, encephalopathy and pneumococcal infection.In recent times incidence of mortality, morbidity & postoperative complicationsis very low. In hands of experienced of gastrointestinal surgeons & in patients with a large diameter splenic vein of size around 10mm,

PSRS is a safe definitive procedure for variceal bleeding due to EHPVO with better long term results with recurrent bleeding as low as 11%.[2] It is an onetime procedure and provides long term control over variceal bleeding in patients with history of upper GI variceal bleed due to EHPVO.We are performing the procedure since 1990. In recent times surgery has become easier due to use of harmonic scalpel and bipolar diathermy and better postoperative ICU care. Mortality and morbidity is very slow. Incidence of postoperative complications like pneumococcal infection & hepatic encephalopathy is also very low.

Patients & Methods

Between January2010 till date we have performed 18 proximal splenorenal shunts and 3 devascularisations in our department for EHPVO. Among them 11were male &7female.Mean age 21 (range12 to 75).All were elective operations for patient with history of prior variceal bleed in form of melena &/or haematemesis. All patients had splenomegaly.Ascites was seen in 2 patients. No patient had jaundice.

Preoperative evaluation included routine hematological investigations, liver function test, Ultrasonography and selectively CT scans. Size of the splenic vein was of paramount importance. Average size of splenic vein was 11mm (range: 6mm- 20mm)

Procedure was performed by thoracoabdominal incision through left 7th or 8th intercostal space. Splenectomy was done meticulously taking care to avoid excessive bleeding. 3 -4 cm of splenic vein was dissected for end to side anastomosis with left renal vein.[3] All the patients were heparinised prior to anastomosis. Special attention was given to prevent any injury to the vessels. The anastomosis was performed with continuous 6-0 prolene suture. Operation was completed with one intercostal & another abdominal tube drain in the splenic bed.[4] All the patients were followed up at interval of three months during the first year& six months in the second year. During the follow up, we performed routine hemogram, liver function test and Doppler ultrasound to access the shunt patency.

Results

All the patients were operated with hemoglobin at least 10 gm/dl. Average blood loss was about 500 ml. Average duration of surgery was 5- 6 hours. Average hospital stay was 12 days.

Rebleeding- Rate of rebleeding is very low, only two patients presented with rebleeding during the first year of follow up and were managed conservatively with EST.(table-1)

Encephalopathy- Never happened after operation

Wound infection- 4 patients had wound infection, all were managed with dressing and antibiotics.

Long term survival- 5 years fallow up shows no post operative death

Discussion

In hands of experienced gastrointestinal surgeons proximal splenorenal shunt is no more a difficult surgical procedure. Adequate anatomical knowledge, meticulous dissection & use of advanced haemostatic equipments like harmonic scalpel or bipolar sealing cautery makes the surgery easier with minimal blood loss and lesser operative time.[5] Now- a days it is possible to perform a PSRS within four hours with blood loss less than 500 ml .[6]With experience the incidence of mortality and morbidity has been reduced to about 1%.We have never come across any case developing hepatic encephalopathy or post splenectomy sepsis after PSRS in our case series. Incidence of shunt block is very low (10%).We think it may be due to small diameter splenic vein. It is more effective than the frequently practiced endoscopic procedures like EST & EVL. It is a onetime definitive procedure that offers satisfactory long term result. For endoscopic procedures multiple sittings are required and the result are never long term.

Table-1

Patient No.	Age	Sex	UGIH	U/S	SV Size(mm)	Rebleed	Sepsis	Encephalopathy
1.	12	M	Yes	EHPVO	10	No	No	No
2.	38	M	Yes	EHPVO	6	Yes	No	No
3.	23	M	Yes	EHPVO	10	No	No	No
4.	75	M	Yes	EHPVO	9	No	No	No
5.	24	M	Yes	EHPVO	10	No	No	No
6.	15	F	Yes	EHPVO	11	No	No	No
7.	17	F	Yes	EHPVO	10	No	No	No
8.	15	M	Yes	EHPVO		No	No	No
9.	16	M	Yes	EHPVO	10	No	No	No
10.	18	M	Yes	EHPVO	11	No	No	No
11.	24	M	Yes	EHPVO	9	No	No	No
12.	16	F	Yes	EHPVO	10	No	No	No
13.	32	M	Yes	EHPVO	10	No	No	No
14.	22	M	Yes	EHPVO	10	No	No	No
15.	26	F	Yes	EHPVO	7	Yes	No	No
16.	38	F	Yes	EHPVO	20	No	No	No
17.	16	F	Yes	EHPVO	10	No	No	No

Conclusion

Hence considering the above multiple factors we strongly recommend proximal splenorenal shunt for management of patients of EHPVO with prior history of upper gastrointestinal bleeding.we have no experience with proximal splenorenal shunt in an emergence setting.

References

1. S.K Sarin, J. D. Sollano, Y.K Chawla et al., " Consensus on extra-hepatic portal vein obstruction," Liver international, Vol.26, no. 5, pp. 512-519, 2006.
2. N.K Arora and M.K. Das, Extra Hepatic Portal Venous Obstruction in Children, The INCLEN Trust International, New Delhi, India.
3. M.D Stringer and E.R Howard, "Long term outcome after injection sclerotherapy for esophageal varices in children with extrahepatic portal hypertension," Gut, vol. 35, no. 2, PP. 257-259, 1994.
4. A.S Prasad, S. Gupta, V. Kohli, G.K Pande, P. Sahni, and S. Nundy, "Proximal splenorenal shunts for extrahepatic portal venous obstruction in children," Annals of Surgery, vol. 219, no 2, PP. 193-196, 1994.
5. A.K Sharma, H.K Rangam, and R.P Choubey, " Splenectomy and lieno-renal shunt for extrahepatic portal venous Obstruction," Indian Pediatrics, vol. 37, no. 4, PP. 422 – 425, 2000.
6. Srivastava, S.K Yadav, R. Lal et al., "Effect of surgical portosystemic shunt on prevalence of minimal hepatic encephalopathy in children with extrahepatic portal venous obstruction: assessment by magnetic resonance imaging and psychometry," Journal of Pediatric Gastroenterology and Nutrition, vol. 51. No. 6, PP. 766-772, 2010.