

Case report

Management of splenic injury in King Hussein Medical Centre

Walid Issa Treef¹ and D. A. Alkhalidi²

Introduction

The spleen is an important part of the immune system, especially in children. Splenectomy may result in immunological deficiency, and splenic salvage is recommended in splenic surgery [1].

The spleen forms part of the reticuloendothelial system and contributes to the clearance of blood-borne particulate matter [2]. Splenic trauma is a serious condition and can be fatal if not diagnosed as early as possible and treated in an appropriate way according to the type and extent of the injury.

Patients and methods

We studied 45 cases of splenic injury diagnosed in King Hussein Medical Centre over a period of four years, 1992–1995. They included 39 males and 6 females. The ages ranged from 3 years to 78 years, with a median age of 22 years. The diagnosis was achieved either by laparotomy, abdominal ultrasound or scintiscanning. In 27 patients diagnosis was made by laparotomy and in 18 patients by ultrasound and scintiscanning. There were various types of splenic injury but the most common was blunt trauma caused by motor vehicle accidents (Table 1).

Table 1 Type of injury

Type of injury patients	Number of
Stab wound to the abdomen	4
Blunt abdominal trauma	
Road traffic accident	23
Fall	14
Gun shot	4

Surgical intervention was performed. Splenectomy was done after mobilization of the spleen into the midline. Splenic conservation was performed by suturing the spleen using absorbable chromic stitches, with or without omental patch or oxidized cellulose.

Results

Twenty-three patients (51.1%) underwent splenectomy; 12 (26.7%) had successful surgical conservation (9 suturing only, 3 suturing with omental patch) and 10 (22.2%) had minor splenic injury which required no surgical treatment. We had four unsuccessful attempts with splenic conservation (splenectomy was performed at the initial laparotomy); three of the patients had blunt

¹Department of General Surgery; ²Department of Gynaecology and Obstetrics, King Hussein Medical Centre, Amman, Jordan.

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abdominal trauma and one had a stab wound to the abdomen.

The most frequent postoperative complication related to blunt abdominal trauma in the patients who survive the initial operation are: wound infection, intra-abdominal abscess, pancreatitis, pulmonary infection, small bowel obstruction, pancreatic fistula and pseudocyst. Drainage to the splenic bed was used in 23 patients, in those who underwent laparotomy. Wound sepsis developed in two patients, one with drainage to the splenic bed and the other without. None of our patients developed deep vein thrombosis.

The mortality rate was 11%; two patients died immediately after admission because of severe head injury, one patient died after splenectomy due to multiple system failure and one patient died a few hours after admission due to massive bleeding.

Discussion and conclusion

Conservative treatment is an available and safe alternative to splenectomy in stable

patients with blunt trauma [3]. Our success of splenic conservation (44.4 %) at laparotomy favourably compares with Morgenstern and Uyeda (34.2 %) [4] and Guilano and Lim (35.9%) [5], but Morgenstern and others had a greater success rate with non-operative treatment [4]. The incidence of splenectomy nowadays is decreasing, which means that surgeons have become more experienced in the conservative treatment of splenic injury. Pachter and colleagues successfully conserved 24 of 27 injured spleens by primary suturing and packing [6]. In our study, we successfully conserved 12 of 16 injured patients. We hope to improve and develop our management of splenic injury and conserve spleens as much as possible during the treatment of splenic injury by using noninvasive methods of diagnosis and new methods of surgical conservation of the spleen.

Conservative management of splenic injury is safe and should be tried for stable patients with blunt trauma when intensive care and monitoring facilities are available and properly used.

References

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