

Splenic rupture caused by a cricket ball

A case report

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Summary

A 14-year-old boy presented with a ruptured spleen after being injured by a cricket ball during a match. A typical picture of splenic rupture with intra-abdominal haemorrhage was evident on admission to hospital. At emergency laparotomy splenorrhaphy was not feasible because of a deep hilar laceration and splenectomy was performed.

S Afr Med J 1987; 71: 796.

Splenic rupture is frequently associated with blunt or penetrating injuries of the abdomen; spontaneous rupture, a definite entity, is occasionally seen in patients with underlying diseases such as infective mononucleosis and malaria. A rare case of splenic rupture caused by a cricket ball is described.

Case report

A 14-year-old boy was admitted to hospital within hours of being struck by a cricket ball during a match. The injury was sustained after a rapidly rising delivery from the bowler ('a bumper') struck him over the lower left lateral side of the chest. At the time he was not wearing protective padding or a helmet.

On admission he complained of severe abdominal pain, syncope on sitting up and left shoulder-tip pain. Clinical findings revealed tachycardia, hypotension, anaemia, generalised abdominal guarding and positive rebound tenderness suggesting intraperitoneal haemorrhage. Examination of the chest wall revealed no rib fractures except minor bruising and point tenderness. A pre-operative diagnosis of splenic rupture was made.

Emergency laparotomy findings revealed a 3 cm long laceration through the hilum of the spleen with active bleeding together with 800 ml free blood in the abdominal cavity. Splenectomy was performed after splenorrhaphy had been attempted but found impossible. He made an uneventful recovery and was discharged after receiving prophylactic polyvalent pneumococcal vaccine.

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Discussion

Although the game of cricket is enjoyed by many thousands of enthusiasts, injuries do occasionally occur which are of interest to general, plastic, maxillofacial or orthopaedic surgeons. Fortunately, the majority are minor and self-limiting and include hamstring muscle injuries, pulled ligaments and bruises resulting from the direct impact of cricket balls. Moderately severe injuries include fractures of metatarsal and metacarpal bones together with fracture dislocations of the fingers. Of special interest are mandibular, zygomatic bone and maxillary impaction fractures due to blunt trauma of cricket balls, emphasising the need for batsmen to wear appropriate helmets with facial protection especially when facing deliveries from fast bowlers. Our patient is of interest because he needed splenectomy for a ruptured spleen after blunt trauma from a cricket ball.

Because of the definite but small incidence of post-splenectomy infection, particularly in young children, most surgeons at laparotomy attempt to preserve as much splenic tissue as possible. Surgical manoeuvres employed to achieve this goal may include suturing of splenic lacerations, debridement, segmental resection, vessel ligation and application of haemostatic agents to small capsular tears.¹ Frequently, splenorrhaphy is not possible with hilar lacerations, as seen in our patient, and is probably contraindicated in the presence of other abdominal injuries, for example colonic trauma. In all cases diagnostic laparotomy should be performed if splenic injury is suspected. In some centres non-operative treatment has been advocated for children but requires meticulous attention to patient selection, observation and follow-up, and remains highly controversial.

Because of the definite but small risk of developing overwhelming post-splenectomy infection, particularly in children under 2 years of age and in patients with underlying reticulo-endothelial diseases, it has become customary to recommend prophylactic administration of polyvalent pneumococcal vaccine (Pneumovax) to all patients undergoing splenectomy.² Since only partial protection against virulent organisms is ensured by the vaccine, additional penicillin treatment should be considered as an extra safeguard, particularly in children.³

The authors wish to thank the Medical Superintendent of Tygerberg Hospital for permission to publish.

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