

A rare case of penetrating splenic injury caused by assault with a large fishbone

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Abstract

Background: In subcontinent countries including Bangladesh, abdominal injury due to physical assault is not very uncommon scenario. Mostly penetrating injury is due to stabbing or gunshot injury. But we aim to present a rare case of penetrating splenic injury with large fishbone following history of assault. **Case report:** A 45 years day labourer male patient came from Cox's bazaar, Bangladesh and admitted (05.04.2016) to surgery in-patient department of Cox's Bazar Medical College Hospital with the history of physical assault by the neighbour with a long sharp object over left lower chest and severe pain with bleeding from the injured site for five hours. On examination patient was apprehended, anxious moderately anaemic, tachycardic (pulse 109 b/min), hypotensive (90/60 mm of Hg). Part of foreignbody was seen at left lower chest that penetrate the abdominal cavity, bleeding was also seen from the injured site. After admission assessment and resuscitation were gone simultaneously. After that, patient was investigated accordingly. Ultrasonography findings were foreign body within the spleen and mild pelvic collection. With proper counseling and consent we underwent exploratory laparotomy under general anaesthesia. A foreign body (fishbone) was identified that penetrate the spleen through and through. Small peritoneal collection (blood) was also seen. After removing of foreign body spleen was repaired and peritoneal toiletting done. Patient was closely monitored for rebleeding but he was recovered well and discharged from hospital after removal of stitches. **Conclusion:** Although trauma resulting from road traffic accidents remains the most common cause of splenic injuries but the incidence of penetrating injuries to the spleen is also on rise in civil society day by day in developing countries. Increasing awareness about the risk of overwhelming post-splenectomy sepsis and postoperative complications are major incentives for splenic salvage and non-operative management.

Key words: Splenic injury, fishbone, physical assault.

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Introduction

Trauma is the most common cause of death in the first four decades of life and is the third most common cause of death regardless of age^{1,2}. And it is a major public health problem in any country regardless of socio-economic level^{3,4}.

Abdomen is the third most common area of the body that is damaged due to trauma. Some abdominal organs are damaged with a higher prevalence due to trauma. In addition to the mechanism of injury, it depends on size and location of the organs inside the abdominal cavity^{1,3}. Abdominal penetrating trauma includes sharp objects damage (stab wound) and gunshot damage (gunshot wound)⁵. It is more common in men than women. The most common cause is the knife; the average age of patients is in the third decade of life³.

Despite being protected under bony cage, the spleen remains amongst the vulnerable organs sustaining injury from amongst the abdominal trauma cases in all age groups. Globally, splenic injuries account for 25% of all solid abdominal organ injuries. Hemorrhages from splenic injury may be massive, moderate which is either persistent or stopped temporarily and then recurs days or weeks later⁶. The mortality rate associated with splenic trauma is reported to be in between 7-18%⁷.

In subcontinent countries including Bangladesh, abdominal injury due to physical assault is not very uncommon scenario. Mostly penetrating injury is

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Case report

A 45 years day labourer male patient came from Cox's bazaar, Bangladesh and admitted (05.04.2016) to surgery in-patient department of Cox's Bazar Medical College Hospital with the history of physical assault by the neighbour with a long sharp object over left lower chest and severe pain with bleeding from the injured site for five hours. On examination patient was apprehended, anxious moderately anaemic, tachycardic (pulse 109 b/min), hypotensive (90/60 mm of Hg). Part of foreignbody was seen at left lower chest that penetrate the abdominal cavity, bleeding was also seen from the injured site. Left hypochondriac and left lumbar region of abdomen was tender. After admission assessment and resuscitation were gone simultaneously. Patient was resuscitated with two units of fresh blood transfusion and simultaneous intravenous fluid infusion. After that, patient was investigated with complete blood count, random blood sugar, serum creatinine, serum electrolytes, chest and abdominal radiograph, ECG and Ultrasonography of whole abdomen etc. Hb% was 8g/dl and Ultrasonography findings were foreign body within the spleen and mild pelvic collection. With proper counseling and consent we underwent exploratory laparotomy under general anaesthesia. A foreign body (fishbone) was identified that penetrate the spleen through and through. Small peritoneal collection (blood) was also seen. After removing of foreign body spleen was repaired and peritoneal toiletting done. Entry wound over left lower chest was kept open and repaired with delayed primary suture. Patient was closely monitored for rebleeding but he was recovered well and discharged from hospital after removal of stitches.



Figure 1 and 2 : A foreign body (fishbone) penetrates through the left lower chest (1); plain radiograph of abdomen shows an elongated hyperdense shadow that penetrates left upper abdomen (2).



Figure 3 and 4 : Ultrasonogram of abdomen shows hyperechoic area within the spleen (3); a long sharp fishbone that was removed from spleen (4).

Discussion

Abdomen is the third most common area of the body that is damaged due to trauma. Some abdominal organs are damaged with a higher prevalence due to trauma. In addition to the mechanism of injury, it depends on size and location of the organs inside the abdominal cavity. Abdominal penetrating trauma includes sharp objects damage (stab wound) and gunshot damage (gunshot wound). It is more common in men than women. The most common cause is the knife; the average age of patients is in the third decade of life³.

Splenic injury in poly trauma patients was reported to be 44% and combined splenic and hepatic lesions in (18%). Splenic injuries represent approximately 25% of all blunt injuries to the abdominal viscera. Penetrating injuries also frequently involve the spleen along with other abdominal organs. The recent trend in management of splenic trauma is preservation whenever possible. This can be non-operative or operative splenorrhaphy⁸.

Gunshot and shotgun injuries are more common mechanisms for penetrating spleen trauma compared to stabbings, as the spleen's anatomical location protects it from stab wounds⁹. But in subcontinent countries road traffic accident and assault are also the most common causes of abdominal injuries as well as penetrating splenic injury. Usually common victims are younger male¹⁰ as well as in our country, because they are commonly gone outside home for different reasons. Our reporting case was came from a coastal area, middle aged male patient and suffered from penetrating splenic injury with a very rare weapon (fishbone) caused by physical assault.

The primary goal of any suspected splenic trauma is prompt diagnosis and management of potentially lifethreatening hemorrhage. Preserving functional splenic tissue is secondary and in selected patients may be accomplished by using non-operative management or operative salvage techniques. Emergent splenectomy still remains a life-saving

procedure for many patients and the avoidance of splenectomy is not the goal.⁹ In our case we avoided splenectomy, rather did splenorrhaphy with close monitoring postoperatively to preserve immune function.

Conclusion

Although trauma resulting from road traffic accidents remains the most common cause of splenic injuries but the incidence of penetrating injuries to the spleen is also on rise in civil society day by day in developing countries. Preventive measures to reduce the incidence of road traffic accidents, licensed weapons, commandment of law and order and prevention of overcrowding in urban areas will definitely reduce the incidence of trauma. Increasing awareness about the risk of overwhelming post-splenectomy sepsis and postoperative complications are major incentives for splenic salvage and non-operative management.

References

1. Rajaei S, Taziki MH, Keshtkar AA, Shoa-Kazemi A. Prevalence of intra abdominal injuries due to penetrating trauma in Gorgan, Iran (2002-07). *J Gorgan Uni Med Sci* 2012; 14(2): 97-100.
2. Brunnicardi F, Andersen D, Billiar T, Dunn D, Hunter J, Matthews J, et al. *Schwartz's principles of surgery*. 9th ed. New York, NY: McGraw-Hill Professional; 2009.
3. Abri B, Shams-Vahdati S, Paknezhad S, Sepehri-Majd P, Bahrami M. Abdominal penetrating trauma and organ damage and its prognosis. *J Anal Res Clin Med* 2016; 4(4): 203-6. Doi: 10.15171/jarcm.2016.034
4. Aldemir M, Tacyildiz I, Girgin S. Predicting factors for mortality in the penetrating abdominal trauma. *Acta Chir Belg* 2004; 104(4): 429-34.
5. Gad MA, Saber A, Farrag S, Shams ME, Ellabban GM. Incidence, patterns, and factors predicting mortality of abdominal injuries in trauma patients. *N Am J Med Sci* 2012; 4(3): 129-34. DOI: 10.4103/1947-2714.93889
6. Walsh J, A., Ludbrook J. (An aid to early diagnosis of ruptured spleen) *Arch-Surg*. 109: 812, 1974.
7. Ahmed N, Khan SA, Abid KJ. Outcome of Splenic Injuries in Adult Trauma Population. *P J M H S* 2013; V- 7: N- 4; P-878-880
8. Ibrahim IO, Hamza AA, Ahmed ME. Traumatic splenic injuries in Khartoum, Sudan. *Surgical Science*, 2013; 4: 525-529.
9. Joseph B, Khalil M, Rhee P. Penetrating Injuries to the Spleen and Kidney: an Evolution in Progress. *Curr Trauma Rep* (2015) 1:76-84
10. Ahmed D, Shareef W. Splenic injuries in Mousul province. *Bas. J. Surg*, March 2003; 31-37