

# Appendicitis Following Blunt Abdominal Trauma

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## Summary

A young boy presented with history of abdominal trauma. History and initial clinical findings suggested a soft tissue injury. Due to increasing abdominal pain and fever, we proceeded with an exploratory laparotomy with a diagnosis of intra-abdominal injury, at which we found a perforated appendix. Appendicitis following blunt abdominal trauma needs high index of suspicion.

**Key Words:** Blunt abdominal trauma, Acute appendicitis

## Introduction

Luminal obstruction is considered to be a cause of acute appendicitis. Trauma has also been considered to be a cause for this very common disease. This case report is presented for its rarity and the need for high clinical suspicion in such circumstances.

## Case Report

An 11-year old boy was admitted two days following a bicycle handle-bar injury to his lower abdomen. He complained of persistent abdominal pain, nausea and vomiting. On examination he was afebrile, with stable vital signs and there was tenderness in the lower abdomen. He was treated for soft tissue injury. A total white cell count done was normal.

Two days after admission his abdominal pain worsened and he complained of diarrhoea. He had low grade fever and the total white cell count

was raised. An urgent ultrasound of the abdomen showed bilateral iliac fossa fluid collection. Due to the signs of peritonitis, he underwent laparotomy. At laparotomy pus in the abdomen and a perforated appendix were found. No fecolith was noted in the perforated appendix. There were no other injuries. An appendicectomy was performed.

Histological examination confirmed a perforated suppurative appendicitis. Patient recovered well after surgery and was discharged home after five days.

## Discussion

The natural history of appendicitis is inflammation leading to perforation in about 36 - 48 hours. Post traumatic appendicitis implicates trauma as a possible mechanism of appendiceal inflammation. It is defined as an acute appendicitis following blunt abdominal trauma in a previously healthy individual, provided the

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## CASE REPORT

appendix has not been severely injured by the trauma itself<sup>1</sup>. Due to its mobility, direct injury to the appendix is rare. Fowler<sup>2</sup> listed three necessary conditions to diagnose post traumatic appendicitis; 1) absence of previous history of attacks of pain; 2) the force of the trauma must be direct to the abdomen, blunt and violent in nature; 3) the effects of trauma must be consequently disabling, merge into symptoms of appendicitis and require treatment.

Henington<sup>3</sup> suggested that trauma could indirectly cause ileocaecal hematomas, mesenteric disruption, edema with enlarged mesenteric nodes, or displacement of stools which could easily obstruct the appendiceal lumen. This would lead to a vicious cycle leading to bacterial multiplication and eventually perforation. In children, cycling is a major activity, apart from

playing, which results in injuries. Bicycle accidents in which there is a history of trauma from the handle bars are particularly associated with severe abdominal injuries as the force of impact is applied via the small cross sectional area of the end of the handlebar.

The initial clinical and radiological signs may be misleading. Abdominal ultrasound may be helpful in children. It may show free fluid or other solid organ injury. A high index of suspicion is needed to come to a diagnosis. An ultrasound may be normal in the early period and intra-abdominal injury cannot be ruled out. Repeated clinical examination is warranted.

Although a relationship between trauma and appendicitis is difficult to prove, their coexistence has to be taken into account.

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### References

1. Serour F, Efrati Y. Acute appendicitis following abdominal trauma. *Archives of Surg.* 1996; 131(7): 785-6.
2. Fowler RH. Trauma and Appendicitis. *Am J Surg.* 1938; 111: 466-7.
3. Henington M, Tinsley E. Acute appendicitis following blunt abdominal trauma, incidence or coincidence. *Ann Surg.* 1991; 214(1): 61-3.