Isolated Transection Of Appendix Following Blunt Abdominal Trauma: A Rare Entity

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Abstract:- Trauma has been attributed as cause for appendicitis in many cases, however isolated transection of appendix following blunt abdominal trauma is almost unheard of. We report a case of a young boy who developed transection of appendix with peritonitis following cycle handle bar injury. In view of abdominal findings and CT suggestive of pneumoperitoneum, patient was taken for exploratory laparotomy. Patient had peritonitis secondary to transection of appendix leaving behind 3 cm of appendiceal stump. Stump appendicectomy and lavage was done and patient had uneventful post-operative period. Hence, though rare blunt abdominal trauma may present with isolated appendiceal injury.

Keywords: - appendiceal transection, blunt abdominal trauma

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I. Introduction

As a surgeon, we encounter numerous young adults in emergency department presenting with acute appendicitis and blunt abdominal trauma. There have been many cases of appendicitis who have been linked to trauma as etiology, however appendiceal transection following blunt abdominal trauma is quite rare; more so its presentation as isolated injury is even rarer. (1) The first to document such transection were Houdini’s biographers. Houdini was great Italian escapologist who died of perforated appendicitis following a punch on his abdomen by amateur boxer in 1926. (2) We report a case of a young boy who presented to our emergency department with complete transection of appendix at the base following cycle handle bar blunt injury.

II. Case Report

This is a case of 13 year old male, who suffered a blunt abdomen trauma with a bicycle handle bar. He was riding a bicycle and then had an accidental fall over bicycle handle with a blunt injury to right iliac fossa. Patient presented to casualty 2 days later with history of pain in right lower abdomen which was continuous and dull aching. He also had a episode of fever not associated with chills and rigors. On examination, he had tachycardia of 112/min. BP was stable. On physical examination, he had tenderness with guarding in right iliac fossa. Contusion was present in right iliac fossa of 3 cm diameter indicating an imprint of cycle handle bar. In view of abdominal signs (generalised tenderness with guarding in right iliac fossa) and plane CT scan abdomen showing free intraperitoneal air, the decision of exploratory laparotomy was taken.

OT findings: -(Fig 1) revealed isolated injury to appendix. There was complete transection of appendix at junction of proximal and middle third of appendix leaving behind 3 cm stump. There was pus 100cc and flakes in right paracolic gutter and pelvis mainly. Stump appendicectomy with lavage was done. Rest of bowel did not show any perforation and liver spleen was normal. Following this patient recovered without any complication & was discharged on 7th post operative day.


Ultrasound abdomen: minimal free fluid in between bowel loops. X-ray abdomen erect: normal. CT abdomen pneumoperitoneum
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III. Discussion

The acute appendicitis is one of the common surgical cause of acute abdomen. Obstructive causes like fecolith, foreignbody, mucus plug and non obstructive causes involving bacterial invasion of lymphoid tissue are common etiologies of acute appendicitis.(3)

There have been only few cases reported of traumatic transection or rupture of appendix, however appendicitis following trauma have been reported multiple times.(1)

Serour and al have claimed that direct appendiceal injury is associated with other intrabdominal organ injuries. Appendix being mobile and small organ, is rarely affected by direct trauma(4)

Pathophysiology of appendicular injury following trauma is uncertain but likely mechanisms are direct compression, oblique crush injury, shearing injury or from indirect obstruction of the appendiceal lumen by an ileocaecal hematoma or traumatic impaction of stool into the appendix.(5)

In 1926 trauma was seen as a possible etiological factor of acute appendicitis with death of Houdini. Houdini used to invite blows on his abdomen to demonstrate his remarkable strength. Following one such punch, he developed severe pain. He neglected it considering it to be a torn muscle. Eventually he was operated by surgeons and was found to have peritonitis with gangrenous appendix. This was first reported case of ruptured appendix following trauma which led to death of great escapologist and illusionist.(2)

Denis reported blunt rupture of appendix in 1 of 38 injured patients restrained during automobile accidents.(6)

In 1956, Gatewood and Russum reported a case of complete transection of appendix following blunt abdominal trauma. The patient, a 39 year old woman involved in a motor vehicle collision, complained of abdominal pain after 3 hours of observation.(7).

In 2013, Moslemi et al.(8) reported a 13 year old boy with a history of bicycle handle bar injury. In less than 6 hours, he developed generalized peritonitis.

In our case there were no symptoms prior to trauma and hence trauma appears to be definitive cause. Also mucosa was pouting out supporting the traumatic etiology. Isolated transection of appendix at the junction of middle and proximal thirds with peritonitis hasn’t been reported previously in literature. Though rare, such injuries should be considered in young patients with blunt abdominal trauma. We should also note that appendicitis must be considered as differential diagnosis in any patient who presents with blunt abdominal trauma.(5)

References

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