

Case Report

Gunshot wounds to the buttock and contralateral thigh presenting with intestinal injury without history of abdominal trauma. Case report

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ABSTRACT

We present a clinical case of a patient who sustained a gunshot wounds to his right buttock (entrance), left thigh (exit), and right thumb, as well as intestinal injuries without history of abdominal trauma. Initially the abdominal injuries were not recognised and the patient did not mention an injury to the abdomen. For this reason he was unfortunately admitted to the orthopaedic ward first for further treatment of his thumb injury.

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Introduction

In South Africa gunshot wounds are common [1,2]. Because of the nature of bullet wounds, the injuries and unknown trajectory by the bullet, the diagnosis of injured tissues often poses a big challenge [3]. Therefore, it is essential that a thorough investigation and examination of the abdomen should always be done for possible injuries following gunshot wounds to areas near the abdomen.

Case report

An 18 year old male patient, was referred from a local clinic with a history of a gunshot wound to his right upper buttock (entrance), left lateral thigh (exit) and right thumb. No history was given of any abdominal injuries. In the casualty department he presented with vital signs that were in the normal range (Glasgow coma scale of 15/15, blood pressure 130/82 mm Hg, pulse rate 80 beats per minute, respiratory rate 20 per minute, temperature 35.7 °C and oxygen saturation 99% on room air). The patient was thoroughly examined and it was found that his abdomen was tense and tender overall. He had guarding but no rebound tenderness.

His right thumb was de-gloved over the distal phalanx. A wound was found over the right upper buttock and another over his left lateral thigh. Both lower limbs were neurovascular intact. He received an anti-tetanus intramuscular injection, as well as pethidine for his pain. Urinary catheter was inserted which drained clear urine. Blood specimens were taken for a full blood count, urea and electrolytes. The blood results were: haemoglobin 11.7 g/dl, haematocrit 0.338/l, platelets $270 \times 10^9/l$ and the urea and electrolytes were normal.

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He was then sent for radiological investigations (X-ray) which revealed a proximal phalangeal fracture of the right thumb, which extended into the distal interphalangeal joint. No fractures of the pelvis or femur were detected. No foreign body, for example a bullet was seen radiologically. Focused assessment with sonography in trauma was normal.

He was then admitted to the Department of Orthopaedic Surgery for a wound debridement and fixation of the fracture. While in the ward awaiting theatre, he started to complain of severe abdominal pain and vomiting. General surgery consultation revealed a distended abdomen which was tender on palpation. His blood pressure dropped to 116/76 mm Hg and pulse rate was 110b/min. Rectal examination was normal with no blood. An urgent abdominal contrast CT scan was ordered, which showed pneumoperitoneum (fig. 1), dilated bowel but no pelvic fractures.

The patient then was taken to theatre for a sigmoidoscopy which did not revealed any injuries to the rectum. Therefore, it was decided to do an exploratory laparoscopy. Intra-operative findings revealed injuries to the distal ileum which was repaired by an anastomosis. During the same sitting the extensor pollicis longus was repaired and the fracture was reduced and fixed with K-wires. The gunshot wounds to the buttock and thigh were debrided and left open. He was then admitted to the general surgical ward. While in the ward he again started to complain of severe abdominal pain and was taken back to theatre for a re-look laparotomy three days later.

Intra-operatively it was found that multiple abscesses have developed and bowel contents were found in the peritoneal cavity. This was all drained and an abdominal wash was done. A diverting ileostomy was performed, as well as a drain inserted. Post-operative recovery was uneventful and ileostomy closure was done later during the year without complications.

Discussion

Retroperitoneal organs are at risk of being injured following gluteal gunshot wounds [3,4,5]. Injuries which occur above the greater trochanter lines may necessitate an angiogram to exclude injuries to major vessels [6]. Those injuries below the intertrochanteric line are unlikely to produce pelvic injuries, although this is not guaranteed [7].

Clinical examination is a good predictor for exploratory laparotomy or laparoscopy. Some authors have found the clinical examination to be of utmost importance, but has to be done meticulously [6]. A variety of injuries of all the structures in the abdomen can be injured up to the diaphragm from gunshot wounds to the gluteal area [4,5,7,8].

A proctoscopy in patients with rectal injuries has high sensitivity. It is therefore essential that all patients be subjected to a sigmoidoscopy to exclude rectal injuries [3,4,6,9,10].

The presence of macroscopic and microscopic haematuria may indicate bladder injuries and needs to be further investigated [7,10]. Patients with a tender abdomen and who are haemodynamically unstable, should be taken to theatre and explored as a matter of urgency [5,7]. In patients who are stable a CT scan of the abdomen could help in determining the trajectory of the bullet. They could be managed conservatively if found that no vital structures are involved, and observed for at least 24 h [5,9]. Mortality rate following gluteal gunshots is 2.2% [9].

Conclusion

All patients with gunshot wounds to the gluteal area should be thoroughly investigated for possible injuries to the abdominal structures. A thorough clinical examination of the abdomen has a high sensitivity. This method of evaluating patients, is quick, cheap and cost effective. In patients who are haemodynamically stable further special investigations, such as radiology can provide additional information. However, in cases of a tender and painful abdomen, immediate surgical exploration is indicated.

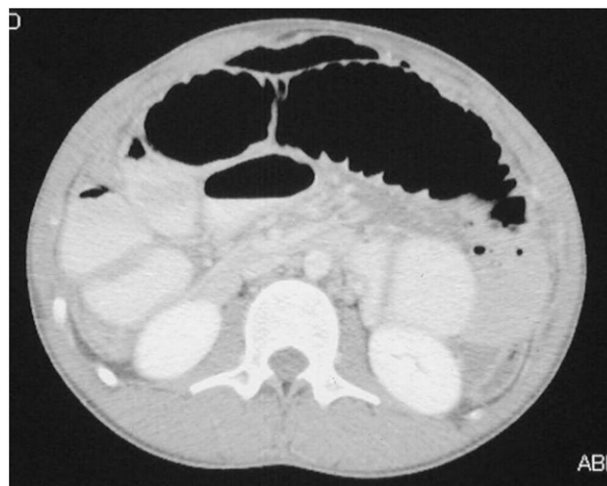


Fig. 1. CT scan of the abdomen with contrast. The red arrow indicates pneumoperitoneum.

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