Case Report

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A conservative approach in a child with haematuria after accidental rectal impalement trauma

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ABSTRACT

We present a case of an 11-year-old boy with haematuria after traumatic rectal insertion of a sharp metal stick. It demonstrates that an expectative management with close observation can be considered in patients with rectal impalement trauma presenting with haematuria and stable vital parameters without significant injury on abdominal ultrasound.

Key words: Child, haematuria, impalement, rectal, trauma

INTRODUCTION

Accidental rectal impalement injuries are relatively rare in children, but are more severe compared to adults as a result of specific paediatric anatomy.[1,2] Herewith, we report a conservative approach in a child with haematuria after accidental rectal impalement trauma without external signs of injury.

CASE REPORT

An 11-year-old boy presented with haematuria after traumatic insertion of a sharp metal stick through his anus. While he was leaning with his buttocks onto a metal stick, he lost his balance and fell backwards onto the stick, whereby it inserted directly through his anus. He thought the stick had inserted his anus for about 5 cm. A perforation was seen in his trousers. Following the incident, he had once bloody stools and haematuria and dysuria. At the emergency department, his vital parameters were stable. His temperature was 38.2°C. He had mild lower abdominal pain to palpation. His anus and genital showed no external signs of injury. Rectal examination detected no blood or other signs of injury of the rectum. The laboratory studies revealed a normal whole blood cell count and C-reactive protein. An abdominal ultrasound was made which showed no abnormalities, in particular, a normal configuration of the bladder and no signs of laceration. Broad spectrum antibiotics (amoxicillin/clavulanic acid) were given. He was admitted to the paediatric ward for close observation. The next day the urine showed a blood clot once without dysuria or hematochezia. A second abdominal ultrasound was performed which again revealed no abnormalities. The expectative management was continued, and the patient left the hospital in good condition the next day. Furthermore, on the day after presentation, a second history was taken with the patient and his parents, which was consistent with the first. The mother of the patient did not see the accident happening, but had seen the sharp stick afterwards. Two weeks later he visited the outpatient clinic and remained asymptomatic. He confirmed once more the aetiology of the incident.

DISCUSSION

Accidental rectal trauma usually occurs by falling directly onto a sharp object and young boys tend to be the usual victims, possibly because of their more aggressive mode of play.[3] Rectal impalement injuries may penetrate the anal canal directly or indirectly.

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When the object enters directly through the anal canal, there may be no signs of trauma visible on the outside, especially when it is a sharp object. If the transanal impalement is directed posteriorly, this causes retroperitoneal involvement, whereas directed anteriorly it penetrates the peritoneum at the pouch of douglas. Consequently, the uterus, the urinary bladder, and urethra can be injured. Deeper penetration may threaten the bowel and solid organs. Hematochezia and haematuria (due to a bladder perforation) can be presenting symptoms. Because there may be no external evidence of the trauma, as in our case, a delay in presentation can occur. With indirect or perianal injury, on the other hand, the object enters through the perineum, which will show signs of the trauma. These perineal injuries are likely to cause extensive destruction of the sphincter, and the majority of such injuries will require local debridement and sphincter repair.[2] Peritoneal penetration in children with perineal impalement is rare and would require extreme force.

Due to the limited number of cases, the extent of diagnostic work-up in patients with rectal impairment is not standardized and based on recommendations reported in case reports. Initially, a plain abdominal film may show free air in the upright position. According to few case reports, further examination under anaesthesia is recommended, including recto- and sigmoidoscopy, to examine the rectal mucosa and evaluate for perforation.[1,4] In cases of haematuria, a cystography is recommended to evaluate any injuries to the bladder and lower urinary system.[1,2,4] However, in our case, we expected the probable small bladder laceration to heal spontaneously. In addition, the vital parameters of our patient were stable, and the initial abdominal ultrasound did not reveal any significant abdominal or bladder injury. He was therefore admitted to the paediatric ward for close observation instead of further evaluations such as a cystogram or proctosigmoidoscopy under anaesthesia. His course was uncomplicated. Therefore, also a more conservative approach in this type of injury seems justified.

It remains to be emphasized that in case of delayed presentation and an inconsistent history regarding the trauma mechanism, sexual abuse has to be excluded.[5] Kadish *et al*. described differences in epidemiology and presentation of accidental and non-accidental rectal and genital injuries in children.[3] In the sexual abuse group, all had physical findings in the rectal area, of which rectal scar and a traumatic skin tags were the most common findings (88%). All patients in the accidental group had well-documented histories that were consistent with the injury sustained. They all fell directly onto a sharp object and 27% of patients in this group required surgery. The scrotum and penis were the most common areas injured, and some patients sustained more than one type of injury. A minority of patients had rectal laceration or perforation.

CONCLUSION

Our case demonstrates an expectative management with close observation can be considered in patients with rectal impalement trauma presenting with haematuria and stable vital parameters without significant injury on abdominal ultrasound. It remains important to rule out sexual abuse.

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Conflicts of interest
There are no conflicts of interest.

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