

Presenter: Ann Botash, MD**Pt: 7 month-old infant****Why this case is of interest**

Rectal injuries are rare in children and are usually seen as a result of accidental impalement in older children. In cases of abuse, the injury is even more likely to be missed and may be life threatening. Consideration for trans-rectal perforation should be given when there are signs of bowel ileus.

This case further points out the common finding that abused children are often re-abused and that physicians continue to miss (and under-report) physical abuse.

Case summary

A 7 month-old infant presents with signs of bowel obstruction. After a delay in diagnosis, a small perforation is identified in her recto-sigmoid colon. Six months prior to this injury, she had a missed diagnosis of spinal cord trauma, most likely due to physical abuse at that time.

Key learning points

- Most rectal injuries in children are due to impalement, sexual abuse or blunt trauma. Trauma from rectal thermometers is rare and should raise suspicion of abuse.
- Signs of external trauma are usually minimal when rectal perforation exists. Recognition of this possibility will decrease the risk of delays in diagnosis.
- Spine trauma may also result in misdiagnosis. Subtle findings should be recognized, identified and reported.

Summary of literature

1. Aprahamian N, Lee L, Shannon M, et al. Glass thermometer injuries: It is not just about mercury. *Pediatric Emergency Care*. 2009; 25(10): 645-647.
 - 627,920 visits to the ED, with 33 patients (5/100,000) with glass thermometer injuries.
 - Mouth injuries in 45%
 - Anus injuries in 39%
 - Face (and orbit) 6%
 - Ear 3%
2. Frank JD, Brown S. Thermometers and rectal perforations in the neonate. *Arch Dis Child*. 1978; 53(10): 824-825.
3. Grisoni ER, Hahn E, Marsh E. Pediatric perineal impalement injuries. *J Pediatr Surg*. 2000; 35: 702-704.
 - Rare injuries, little external signs but life threatening and surgically challenging.
 - Extent of injury is dependent on the size, force and direction of the impaling object.
 - Impaling objects: Billiard cue, bathroom plunger and broken glass piece.
 - Prognosis is generally good. Repair with and without colostomy.
4. Morley CJ, Hewson PH, Thornton AJ, Cole TJ. Axillary and rectal temperature measurements in infants. *Arch Dis Child*. 1992 Jan; 67(1): 122-5.

Reviewed the literature and determined that there were only 20 cases of rectal perforation in the last 30 years and most were not proven to be from thermometers (thought to be spontaneous perforations) and all were neonates. Most perforations at home are from struggling toddlers.