

A curious case of attempted infanticide by percutaneous needle insertion: diagnosis and laparoscopic management

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Abstract

Keywords

- Infant
- Pediatric surgery
- Laparoscopy
- Infanticide

This is the case of a 6 month-old boy victim of an attempted infanticide by means of sharp long needles inserted through the abdominal wall. He was successfully managed by laparoscopic approach.

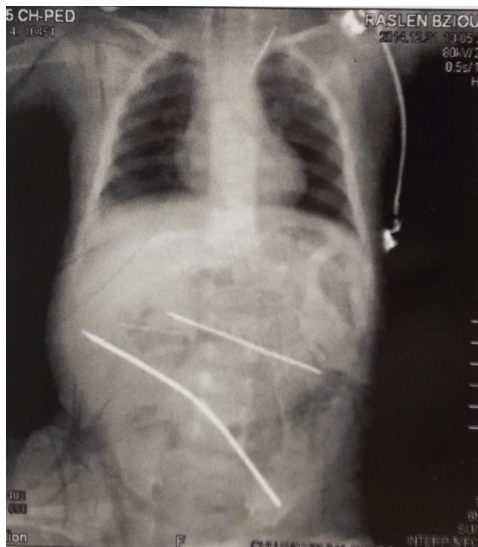
Introduction

The present case of attempted infanticide is unique for its unusual route of foreign body entry through the abdomen, the absence of major intra-abdominal organ injury and the definitive management using laparoscopic approach.

Case presentation

We report the case of a 6 month-old baby boy, without past medical or surgical history, who was referred after 24 hours of generalized abdominal pain associated with vomiting. That child had antecedents of family conflict. It was found that his grandmother had inserted sharp long needles through the abdominal wall for indeterminable reasons. Routine observation revealed normal vital signs and oxygen saturation. On physical examination, we noted three echymotic, punctiform lesions in the left flank. The abdomen was neither distended nor tender. Normal bowel sounds were present. The laboratory data were within normal limits. Subsequent abdominal plain X-Ray showed three long metallic sharply pointed foreign bodies located at the right upper side, without pneumoperitoneum **Figure 1**.

Figure 1: plain abdominal X ray: three long metallic sharply pointed foreign bodies (needles) in the abdomen, but no pneumoperitoneum



A CT scan of the abdomen and pelvis was carried out to help localize the presumed foreign bodies and aid in preoperative planning. It demonstrated extraluminal sharp metallic foreign bodies needle like lying in the peritoneal cavity without any evidence of intra-abdominal organ injury. The length of needles were: 12.5, 8.5 and 4.3 cm respectively and

they were close to inferior border of liver and right kidney. Free air or peritoneal fluid were not observed. On the basis of these findings, as the possibility of complications was very high, an urgent surgery was planned. A laparoscopic exploration was undertaken to evaluate the exact location and extirpation of needles. A 5mm trocar was inserted in the umbilicus under direct vision, a pneumoperitoneum of 8mmHg was created and then two 3mm operator trocars were inserted in the left and the right lower abdominal wall. Intra operatively, the needles were easily found, however, after gentle manipulation of the intestine it was seen that one needle had perforated the small bowel. The clogged perforation was located at 40cm distal to duodeno-jejunal junction. The perforation was repaired, the needles extracted (**Figure 2**) and the abdomen irrigated copiously with normal saline solution. The rest of the abdomen proved to be lesion-free. After an uneventful postoperative course, the child was discharged at post-op day 5.

Figure 2: Needles extracted successfully from the peritoneal cavity



Discussion

The methods of attempted infanticide could be throttling, drowning, freezing, etc. The insertion of needles through the abdominal wall is an easy and secret way to kill the unwanted baby.¹

Amongst infants over a day old and under 1 year, the younger the infant the greater is the risk. Boys are at increased risk compared with girls, especially those aged between 1 day and 6 months. Both parents could be the perpetrators, although fathers may be slightly more likely, especially if they are the main caretaker.²

In our case, the perpetrator was the grandmother, who had a personality disorder and psychiatric disturbance. From the literature it is clear that the presence of a foreign body in the organism is not unusual.³ The review shows clearly that even seemingly harmless objects can cause serious and sometimes fatal injuries of internal organs⁴. In an extensive literature review, we found no cases of intraperitoneal foreign body migration through the abdominal wall without organ injury.⁵

Foreign bodies pose a serious hazard requiring immediate intervention. In the case of sharp objects, the complication rate increases from less than or equal to 1% to greater than 15% to 35% depending on the number, type, and gastrointestinal contact time.⁶ Sharp foreign bodies have also been reported to cause intestinal or diaphragmatic perforation.⁶ Before surgical management, careful evaluation is required. A surgical exploration using laparotomy or laparoscopic approach is needed in case of an acute abdomen with free air found on plain abdominal X-ray or on tomographic imaging.⁷ It is necessary that eventual fluid, electrolyte imbalances and organ failure ought to be preoperatively treated.⁸

The exact localization of the intestinal perforation is often not easily made preoperatively. An eventual leak may be diagnosed following a complete surgical and meticulous evaluation of the intestine. For the exploration of an acute abdomen, laparoscopic approach has been shown to be a defendable alternative.⁹ However, many factors may influence the surgeon decision. Otherwise the condition of the

patient, experience of the surgeon and availability of technical equipment in the emergency situation make the surgeon decide whether laparoscopic management is the suitable treatment for the particular patient and for himself.⁸ There are reports of successful laparoscopic management of intraperitoneal foreign bodies in selected cases when patients are stable and presentation is not acute.⁵ The intraperitoneal space should be considered in the diagnostic workup whenever the anatomical location of a foreign body is unclear.⁵ Based on this current case, we identified that laparoscopic exploration for an intra-abdominal foreign body is a safe and effective primary option to remove the object.

As demonstrated, it may be possible to remove the foreign body using minimally invasive techniques avoiding laparotomy. Only a few reports have previously described treatment solely by laparoscopic methods for bowel perforation caused by a foreign body.

The sites of perforation in previous reports are different, and all were detected by direct laparoscopic vision. The laparoscopic approach is applicable for small perforations.¹⁰ In our case, the intestinal perforation was not identified pre operatively and its detection was performed under a direct laparoscopic view.

Conclusion

Attempted infanticide by such foreign bodies is unique and not commonly described.

Early diagnosis is important to prevent complications. Imaging methods provide useful information to allow the selection of the best therapeutic option.

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