

Polyembolokoilamania: Foreign Body Insertion in the Abdomen and the Rectum

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Abstract

Bharath stated that the introduction of foreign bodies into one's own body is one of the uncommon types of self-mutilation. There is a relative dearth of literature discussing its predisposing factors, complications and management. Children commonly swallow foreign bodies, most of these are accidental ingestion. In adolescents, intentional foreign body insertion often reflects risk taking behaviour. Adults may suffer from co-morbid psychiatric disease, harbour lingering curiosities that manifest as experimentation or as auto-eroticism. While psychiatric causes have been hypothesized as the underlying aetiology, its incidence in this cohort remains to be established. Foreign body insertion in these individuals is associated with highly repetitive behaviour, it may occur as a response to command hallucinations, for example in schizophrenia. Foreign bodies can enter the human body by swallowing, insertion or by traumatic force, either accidental or deliberate. The authors describe two cases of foreign body insertion (a plastic bottle and sewing needles) involving the rectum and the abdomen presenting to the Emergency Department. A non-judgemental and open-minded approach is crucial, ensuring privacy, professionalism and empathy towards a patient presenting to triage as staff reactions such as titillation or disgust can impact negatively on compassionate patient care. Successful management involves a collaborative approach involving primary care physicians, emergency physicians, surgeons and psychiatrists. Even after extraction, delayed perforation or significant bleeding from the rectum may occur. Unearthing the aetiology for foreign body insertion can lead to management strategies that target the motivation for the behaviour. This paper will provide an overview of its aetiology, clinical presentation and management.

Keywords: Case report; Polyembolokoilamania; Foreign body insertion; Co-morbid psychiatric disease; Perforation

Presentation (Case 1)

A 25 year old female attended the Emergency Department with a 5 week history of generalised abdominal pain, nausea and intermittent episodes of vomiting [1]. She was accompanied by her carer. She admitted inserting sewing needles under her skin 24 hours previously, but denied recent ingestion. She denied suicidal ideation. She described a history of recurrent abdominal pain and chronic constipation. Her bowels had not opened for one week. Her medical history included an emotionally unstable

personality disorder, a dependent personality disorder and an anxious, avoidant personality. In addition, she had a previous history of anorexia, iron deficiency anaemia and myalgia encephalitis. She described a history of deliberate self-harm and multiple hospital admissions after inserting sewing needles under her skin and ingesting them. She underwent an examination under anaesthesia and removal of sewing needles from her legs and her abdomen. In addition, she reported previous episodes of attempted suicide by drowning and impulsive overdosing on paracetamol. Her medications included pregabalin 25mg bd, prochlorperazine 5mg tds, paracetamol 1g qds, vitamin B compound bd, esomeprazole 40mg bd, loratadine 10mg od, zuclopenthixol 10mg od, folic acid 5mg od, lactulose 10mls bd, senna 7.5mg od and buprenorphine 20mcgs once a week. She was allergic to cyclizine and tramadol. She was wheelchair bound due to equinovarus feet and dystonia. Due to recurrent episodes of acute urinary retention she performed intermittent self-catheterisation. Physical examination confirmed a soft abdomen with mild tenderness para-umbilically. The sewing needles were not clinically evident. Bowel sounds were present on auscultation. Digital rectal examination confirmed soft stool. Respiratory and cardiovascular examination were unremarkable.

Investigations

Laboratory investigations were unremarkable. Urinalysis and bHCG were negative. Her venous blood gas confirmed normal physiology. Her chest radiograph showed no evidence of free air beneath the diaphragm (Figure 1). Her abdominal radiograph revealed a normal bowel gas pattern. Multiple linear radiopaque foreign bodies were seen projecting throughout the abdomen (Figure 2). Further investigation with a CT Abdomen and pelvis showed multiple needles in the soft tissues (Figure 3). One needle was present in the left lower quadrant and appeared to be intra-peritoneal. In addition, several needles were observed in the pyloric antrum. There was no evidence of free gas or a collection. The abdominal viscera were unremarkable. A barium meal and follow through was performed. The patient received 100cc of gastrografin orally which passed easily through the stomach to the jejunum passing the needles uneventfully. No leak or obstruction was evident.

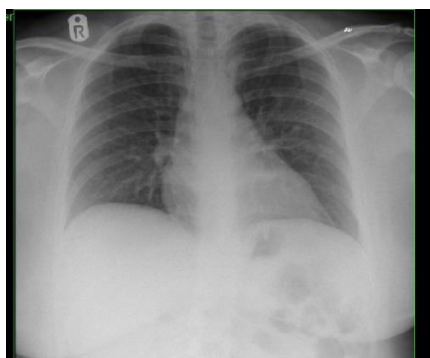


Figure 1: Her chest radiograph showed no evidence of free air beneath the diaphragm.



Figure 2: Her abdominal radiograph revealed a normal bowel gas pattern. Multiple linear radiopaque foreign bodies were seen projecting throughout the abdomen.

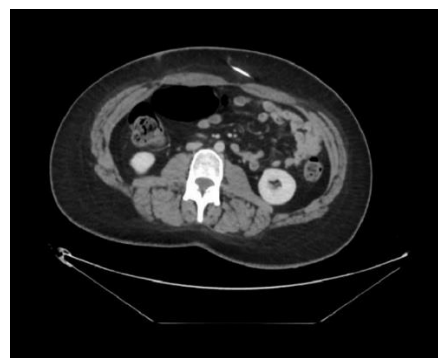


Figure 3: Further investigation with a CT Abdomen and pelvis showed multiple needles in the soft tissues.

Differential Diagnosis

A diagnosis of polyembolokoilamania was rendered.

Treatment

Her case was discussed with the hepatobiliary consultant and conservative management was advised due to the risk of causing an iatrogenic perforation. She was admitted for observation for 48 hours. She received intra-venous fluids and a proton pump inhibitor.

Outcome

She was discharged home uneventfully with follow up with her psychiatrist.

Presentation (Case 2)

A 32 year old gentleman presented to the emergency department with a three day history of constipation and generalised abdominal pain. He denied a history of nausea or vomiting and he was passing flatus. His medical history was unremarkable. His surgical history included laparoscopic mesh repair of his left inguinal hernia. He had no known medication allergies. He was a non-smoker and consumed 10 units of alcohol weekly. He admitted inserting a plastic bottle with a metallic lid in his rectum to alleviate his constipation 24 hours prior to his hospital presentation. Multiple attempts to remove the plastic bottle were unsuccessful. On several occasions, he had inserted a plastic bottle to relieve his constipation and removed it manually without difficulty. Unfortunately, on this occasion, it had penetrated so far that he could not grip the edge and remove it. He denied that foreign body insertion was ever an intentional self-injurious act. His delayed presentation was due to embarrassment and perceived shame at the experience of being exposed. Physical examination confirmed a soft, non-tender abdomen with no evidence of peritonism. The foreign body was not palpable transabdominally. There was no clinical evidence of external anal sphincter damage. Bowel sounds were present on auscultation. Digital rectal examination revealed the foreign body 7cm from his anal verge.

Investigations

His observations were stable. Laboratory investigations were unremarkable. His venous blood gas was normal. His chest radiograph showed no evidence of free air beneath the diaphragm. Further investigation with an abdominal radiograph revealed a foreign body in his rectum (Figure 4).



Figure 4: Further investigation with an abdominal radiograph revealed a foreign body.

Differential Diagnosis

A diagnosis of polyembolokoilamania was confirmed.

Treatment

He was admitted under the surgical team. He received intra-venous fluid therapy and analgesia. He was consented for an examination under anaesthesia (EUA) +/- a laparotomy.

Outcome

An EUA was performed. The foreign body was retrieved manually from the rectum uneventfully. He was observed for 48 hours postoperatively and serial abdominal radiographs showed no acute pathology. He was discharged home unremarkably.

Discussion

Polyembolokoilamania is the term used to describe the insertion of foreign objects into one or more body orifice and it can be classified as a paraphilia if it is done for sexual pleasure [2]. Although reports of the aforementioned are not uncommon, only a few large reviews exist, mostly published before 1950 [3]. In 1880, Poulet wrote chapters on this topic in his book, 'A Treatise on Foreign Bodies in Surgical Practice' followed by Packard's text describing foreign bodies introduced into the male bladder via the urethra [3,4]. Its prevalence remains unknown due to the under-reporting of cases. Accidental insertion is common in young children, especially those with syndromes such as Smith Magenis, Lesch-Nyhan, Cornelia de Lange and Gilles de la Tourettes. In adolescence, it often reflects risk taking behaviour, attention seeking or poor judgement while under the influence of drugs or alcohol. Adolescent females with eating disorders exhibit a propensity for toothbrush swallowing. Polyembolokoilamania has also been described as a behavioural and psychological symptom of dementia [5]. Cases can also occur secondary to Munchausen's Syndrome or be attributed to secondary gain. According to Gitlin, the psychological profile of this patient cohort includes malingering, psychosis, pica and personality disorders [6]. Suicide attempts by foreign body insertion usually involves oral ingestion of toxic substances such as batteries or a sharp object such as a pin. Foreign body insertion (for example, staples, pencil lead, pins, sewing needles and glass) into the soft tissues of the abdomen, as in our case, the hands, arms, feet, legs, buttocks and neck have been described [7,8]. Watson described the first case of intra-peritoneal foreign bodies passed via the umbilicus in 1985 [9]. This behaviour carries the risk of bowel perforation, abscess formation or nerve injury resulting in functional impairment. Those individuals for whom insertion is a means of regulating painful affects may be at particular risk of imminent repeated self-injury and a one-to-one sitter at the bedside may be required. The insertion of foreign objects into the genito-urinary tract is commonly described in the literature, most are related to sexual satisfaction, for example, urethral manipulation leads to prostatic stimulation and activation of hypogastric nerve afferents, leading to gratification [10]. A variety of foreign objects have been described such as electrical wires, batteries, glass, pencils and telephone cables. Complications may include urethral tears, false passage, stenosis, infection, erectile dysfunction and urinary tract symptoms. In females, vaginal insertion can lead to pelvic pain and septic shock [3]. It can also result in strangury, a term now replaced with bladder spasm—the process of slow and painful discharge of urine due to a significant inflammatory component or stricture [11]. Foreign bodies localized in the digestive tract may pass uneventfully with faeces within 4-6 days. In <1% of patients, the sharp object perforates the gastrointestinal wall and migrates to the intra-peritoneal area [12]. Operative intervention is required in 1% of cases [13]. Non-ingested intraperitoneal foreign bodies may result in chronic abdominal pain. Rectal foreign body insertion occurs more commonly in males with a mean age of 44 years. The earliest published case was in 1919 by Smiley

and it involved a glass [14]. In 50% of cases, the reason for insertion was for sexual arousal or stimulation. The foreign bodies commonly reported include plastic or glass bottles, carrots, cucumbers, wooden or rubber objects. Other reasons included factitious disorder, malingering, cognitive disorders, borderline personality disorder and alcohol intoxication. Complications can result from the process of insertion, removal or from the contents introduced in to the orifice [5]. Perforation can occur. Objects placed in the sigmoid colon are twice as likely to require surgical intervention. While bedside extraction is advocated by many authors, Cawich recently reported that transanal extraction in the Emergency Department failed in 89% of cases [15]. In 63% of the failed extractions, the objects were inadvertently pushed higher into the recto-sigmoid junction. Therefore, examination under anaesthesia should be performed with close observation and serial abdominal examination. Factitious disorder has been manifest by rectal insertion of a glass bottle neck [16]. There may be a delayed presentation to the emergency department, with many individuals waiting up to two weeks before seeking help due to amplified paranoia and perceived prejudice [17]. Trans anal minimally invasive approaches have been reported with successful outcomes when performed in stable patients with no signs of perforation. Laparoscopy has been described to push the rectal foreign body from above to assist removal trans anally [18]. Free perforation of the intraperitoneal rectum or colon mandates laparotomy with appropriate removal. Creating a non-judgemental environment is essential even when the history appears to be fabricated. Psychiatric behaviour can be unmasked and harm reduction strategies can be taught and instituted [19]. Emergency staff should be educated about countertransference reactions as these actions are necessary to maintain the patient-staff relationship [5]. Numerous reports attest that anxiety and shame are commonly experienced by inserters, in particular those individuals who do so for sexual gratification, on initial presentation to the hospital [20]. There is no consensus about when a psychiatric evaluation should be sought, however, co-morbid psychiatric disease may remain unidentified without a consultation. Elucidating the patient's behaviour motivation may result in harm reducing strategies. Deaths have been reported from auto-erotic foreign body insertion, for example, vaginal insertion of a carrot causing fatal air embolism, urethral insertion of a lead pencil causing bladder perforation and peritonitis and rectal insertion of a shoe horn causing anal haemorrhage [21].

Conclusion

This paper acts as a cautionary reminder of considering co-morbid psychiatric disease in patients presenting with foreign body insertion and the importance of achieving a multi disciplinary approach to reduce morbidity and mortality in this patient cohort.

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