Original Research Paper General Surgery

AIR BLOW GUN CAUSING RECTAL PERFORATION : A RARE CAUSE

Dr. Pankaj Kumar Verma	Associate Professor, GMC Haldwani
Dr.Ashish Jaiswal	Postgraduate student,GMC Haldwani
Dr. Shriranjan Kala	Assistant Professor GMC Haldwani.

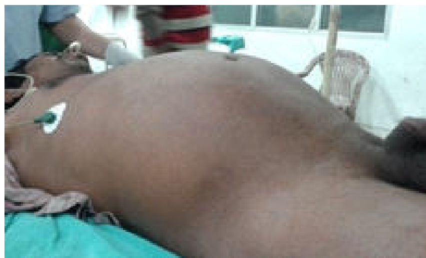
ABSTRACT

Rectal perforation by foreign body insertion has been extensively described in the surgical literature but, the nature and type of foreign body recovered during surgery varies widely and depends on the socio-cultural and ethnic background of the victim and the availability of the suitable material. The presentation of this entity is similar to any other cause of peritonitis and preoperatively remains a diagnostic dilemma. We report a case of a 45-year-old man who presented with rectal perforation and an emergency laparotomy was performed. Surgeons should be aware of the possibility of this fatal disease and despite its rare incidence, it is important to recognize this condition at an early stage because it has high mortality if not treated early. Conversely, the surgical outcome is satisfactory provided surgery is performed in due time as in this case.

KEYWORDS

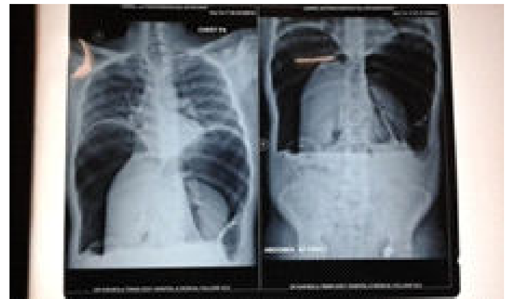
INTRODUCTION

Rectal perforation by foreign body insertion has been extensively described in the surgical literature in the form of case reports or case series. The reported incidence of rectal foreign bodies is rather rare, as it is associated with taboo and social stigma. Often it is associated with a sexual component with both genders equally vulnerable[1]. The nature and type of foreign body recovered during surgery varies widely and depends on the socio-cultural and ethnic background of the victim and the availability of the suitable material[2,3,4]. The presentation of this entity is similar to any other cause of peritonitis and preoperatively remains a diagnostic dilemma. While patients may be reluctant to disclose the cause of their presentation, diagnosis can be made in the majority of cases with accurate history and confirmed with plain radiographs. We are reporting one such rare case of rectal perforation which occurred due to a prank made with ***air blow gun with air compressor*** in good humor. This was successfully managed surgically. Air blow gun with air compressor is a mechanical device used in motor vehicle industry for the purpose of cleaning motor parts.



CASE REPORT

A 45 year old married man Harpal singh, resident of Kichchha Uttarakhand and labouror by occupation came to emergency department of Dr. Sushila Tiwari Govt. Hospital, Haldwani on 24th December at 6.00 pm with massive abdominal distension and severe abdominal pain since noon. As per the history given by patient himself he was apparently well till noon when he suddenly developed acute onset severe abdominal pain alongwith massive abdominal distention. There was no history of vomiting, fever, dyspepsia, hemetemesis, and bleeding per rectal. There was also no history of any chronic illness or previous hospitalisation in recent past. On clinical examination, patient was of average built and nutrition. He was afebrile with adequate hydration. Pallor, icterus, clubbing, cyanosis and lymphadenopathy was absent. Pulse rate was 88 beats per minute and BP was 138/76 mm of Hg.



Per abdomen findings(Fig. 1) were tense distended abdomen , tenderness and guarding in all quardants, percussion notes were tympanic in all quardants and bowel sounds were absent. Digital rectal examination findings were normal anal sphincter tone, no ballooning ,no bleeding and rectum contains soft liquified feces. Mild tenderness was also present. Provisional diagnosis of peritonitis was made and patient was sent for radiographic examination after initial resuscitaton and blood sampling for baseline blood reports.

Chest skiagram(Fig. 2) showed extensive gas shadow under both dome of diaphram and this raised a high index of suspicion which led to repeated questioning and eventual discovery of the correct etiology of the pain. The patient was labouror in a motor vehicle garage and there they were using air blow gun with air compressor for cleaning of motor parts. On the day of incidence, patient became the victim of a prank made by his friend while working. His friend brought the nozzle of the air blow gun in between his buttocks just to create humor. But instead of becoming a humor it became an accident. Immediately patient developed the symptoms and was brought to our emergency department by shop manager. We did a forensic evaluation accordingly, as the case merit medico-legal approach.

Exploratory laparotomy was done by lower midline incision under general anesthesia. There was significant fecal contamination in the peritoneal cavity. An intraperitoneal rectal perforation of size about 3 cm, with ragged margins was found anteriorly at the junction of lower and middle third of rectum. (Fig. 3&4) Whole pelvic and peritoneal cavity was thoroughly inspected to detect any other visceral injuries and fortunately they were not found. Margins of the perforation were freshened and repair was done in single layer. Defunctioning Loop sigmoid colostomy was done.

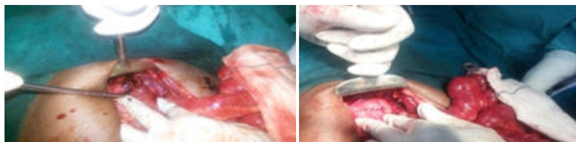
Psychiatric consultation were taken in post operative period which was absulately within normal limits. This also authenticates the history given by the patient .Post-operative period was uneventful and patients were discharged from the hospital for closure of colostomy at a later time.

DISCUSSION

There are several means of access to the rectum resulting in to its perforation. They are listed as follows: 1) Diagnostic or therapeutic instrumentation; 2) Ingestion; 3) Erosion or entrance from adjacent tissues; 4) Assault or injury; 5) Auto-erotic instrumentation.

The majority of rectal foreign bodies seen in practice are a result of deliberate insertion into the anal canal[5,6]. These may have been inserted purposefully by the patient themselves as in anal masturbation, or by a sexual partner.

There are numerous reports in the literature concerning interesting an unusual foreign bodies. Wagner[7] mentions some of the earlier reported cases. Others describe bottles,[8,9,10,11,12] a broom handle,[13] an umbrella handle,[14] a light bulb,[15] a plantain encased in a condom,[16] two gauze packs from prior anal surgery, toothpicks, bones, seeds, dental fillings, a teacup, an oil can, two carrots, two vaseline jars, thermometers, and a lemon inside a cold cream jar.[17] Butters[18] reported a most unusual incident. A man inserted a 6 inch tube of a cartridge paper into his rectum and then dropped in a lighted firecracker which blew a large hole in the anterior wall of the rectum. Lesh[19] reported perforation of the rectum caused by the foot of a breech baby with the anus remaining intact. The psychology of the act of rectal instrumentation for sexual stimulation is reviewed by Haft and Benjamin.[20]



After going through exaustive review of literature, rectal perforation due to air blow gun with compressed air have not been found in literature till now. So this appears to be first case of its type.

Although cases of anally-inserted foreign object causing problems are not common, if proper treatment is not administered in emergency situations, complications of anorectal dysfunction, fecal incontinence, perforation, peritonitis, pelvic abscess, etc. may occur. Rectal perforations from anal penetration may typically present acutely with signs and symptoms of trauma, such as bleeding and perforation. Therefore, physical examination should primarily focus on ruling out peritonitis. A rectal examination should be performed to assess the location of the perforation, and to determine sphincter competency. It is uncommon for the sphincter to have been injured in cases of voluntary insertion. Furthermore, if there are signs and symptoms of bowel perforation, attempts at removal should cease and surgeon should be consulted emergently as well.In our opinion, the mainstays of the treatment protocol are admission time, patient's general condition, and the extent of injury.

CONCLUSION

This case report highlights the unexpected and serious consequences of a simple humor that led to traumatic internal injuries in the body. Management of such rare cases may be challenging, as severity and extent of the injuries inflicted can not be anticipated. Also, failure to provide details about the incidence by the patient due to social stigma often makes the diagnosis difficult. A high index of suspicion and a systematic approach should be adopted to avoid pitfalls. At last, such unusual humors; which can put someone's life on stake; must be avoided.

REFERENCES

1. Crass RA, Tranbaugh RF, Kudsk KA, et al. Colorectal foreign bodies and perforation. Am J Surg 1981; 142(1):85-8.
2. Singla SL.,Chitkara N.,Singla B.,Garg P,Dhiv V. Whisky bottle in rectum. Ind J Gastroenterology 1996; 15(3) :113.
3. Barone JE, Sohn N, Nealon TF, Jr. Perforations and foreign bodies of the rectum: report of 28 cases. Ann Surg. 1976 Nov;184(5):601-4.
4. Busch DB, Starling JR. Rectal foreign bodies: case reports and a comprehensive review of the world's literature. Surgery. 1986; 100(3):512-9.
5. Lyons MF, Tsuchida AM. Foreign bodies of the gastrointestinal tract. Med Clin North Am. 1993; 77(5):1101–1114.
6. Moreira CA, Wongpakdee S, Gennaro AR. A foreign body (chicken bone) in the rectum causing extensive perirectal and scrota1 abscess: report of a case. Dis Colon Rectum. 1975; 18(5):407–409.
7. Wagner, J.: Foreign Bodies in Rectum. Am. J. Surg.. 36:266,1937.
8. Carry, E. J.: Removal of a Foreign Body in the Rectosigmoid Using a Tonsil Snare. Arch. Surg., 76:465, 1958.
9. Kraker, D. A.: Foreign Body in Rectum and Sigmoid. Am. J. Surg., 291:449, 1935.
10. Lowicki, E. M.: Accidental Introduction of a Giant Foreign Body into the Rectum. Ann. Surg., 163:395, 1966.
11. Macht, S. H.: Foreign Body (Bottles) in Rectum. Radiology, 42:500, 1944.
12. ReBell, F. G.: The Problem of Foreign Bodies in the Colon and Rectum. Am. J. Surg., 76:678. 1948.
13. Lucas, M. A. and Ryan, J. E.: Unusual Case Report of Foreign Body in Rectum and Sigmoid. Kentucky Med. J. 45:289. 1947.
14. Kleitsch, W. P.: Foreign Bodies in Rectum. Mil. Surg., 105:215, 1949.
15. Hunter, R. D., Jr.: Foreign Body (Light Bulb) in Recto-sigmoid. U.S. Armed Forces Med. J., 5:1058, 1954.
16. Barone, Sohn and Nealon Ann. Surg. November 1976 &. Kaufman, L. R. and Honig, C.: Unusual Foreign Body in Rectum. Am. J. Surg., 71:91, 1946.
17. Wyker, A. W.: Foreign Body in Rectum. Am. J. Surg.. 29. 451. 1935.
18. Butters, A. G.: An Unusual Rectal Injury. Br. Med. J., 2:602, 1955.
19. Lesh, R. E.: Presentation of Foot Through Intact Anus During Breech Delivery. Am. J. Obstet. Gynecol. 64:688, 1952.
20. Haft, J. S. and Benjamin, H. B.: Foreign Bodies on the Rectum: Some Psychosexual Aspects. Med. Aspects Human Sexuality, 8:74, 1973.