

Original Article

Surgical Management of Anorectal Foreign Bodies

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ABSTRACT

Purpose: Anorectal foreign bodies (AFBs) inserted into anus constitute one of the most important problems needing surgical emergency due to its complications. We describe our experience in the diagnosis and treatment of AFBs retained in the rectosigmoid colon. **Materials and Methods:** Between the years 2006 and 2015, a total of 11 patients diagnosed with AFBs were admitted to an emergency room and general surgery clinics. They were diagnosed and treated in four different hospitals in four different cities in Turkey. Information on the AFBs, clinical presentation, treatment strategies, and outcomes were documented. We retrospectively reviewed the medical records of these unusual patients. **Results:** Eleven patients were involved in this study. All patients were male with their mean age was 49.81 (range, 23–71) years. The time of the presentation to the removal of the foreign bodies ranged between 2 h and 96 h with a mean of 19.72 h. Ten patients inserted AFBs in the anus with the purpose of eroticism but one patient's reason to relieve constipation. The objects were one body spray can, two bottles, three dildos, two sticks, one water hose, one corncob, and one pointed squash. Three objects were removed transanally after anal dilatation under general anesthesia. Eight of the patients required laparotomy (milking, primary suture, and colostomy). Five of the patients had perforation of the rectosigmoid colon. Abdominal abscess complicated extraction in one patient after the postoperative period. The hospitalization time of the patients was 6.18 (1–16) days. None of the patients died. **Conclusions:** A careful assessment is a key point for the correct diagnosis and treatment of AFBs. Clinical conditions of patients and type of AFBs are important in the choice of treatment strategy. If the AFBs are large, proximally migrated or the patients with an AFB have acute abdomen due to perforation, pelvic abscess, obstruction, or bleeding, surgery is needed as soon as possible. There are different types of surgical approaches such as less invasive transanal extraction under anesthesia and more invasive abdominal routes such as laparotomy or laparoscopy. The stoma can be done if there is colonic perforation. In the management of AFBs, the priority must be less invasive methods as possible.

KEYWORDS: Acute abdomen, anorectal foreign body, eroticism, surgical treatment

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INTRODUCTION

Anorectal foreign bodies (AFBs) are sometimes seen in the emergency room or general surgery clinics. AFB is an important cause of emergency surgery. Majority of foreign bodies are introduced through the anus, but sometimes, a foreign body may be swallowed accidentally and get stucked in the rectum.^[1] Foreign body insertion in the anorectal region has been extensively described in the literature, with the earliest

reports dating back to the 16th century.^[2] The transanal introduction of foreign body can be observed in prisoners, psychiatric patients, homosexuals, drug traffickers, cases of rape, people who uses drugs or alcohol, suicide attempts, and people purposed eroticism.^[3-7] The main

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purpose of AFB is for eroticism.^[7] In these cases, admission to the hospital is nearly always delayed due to the embarrassment, and a wide spectrum of injuries are associated.^[2,8] It is important for the emergency room physicians and general surgeons to be familiar with the foreign bodies, the variety of the extraction techniques and management of colorectal injuries resulting from the insertion or extraction of the foreign body. In this study, we present our experience in the diagnosis and surgical treatment of AFBs inserted in the rectosigmoid colon.

MATERIALS AND METHODS

We collected the medical records of the patients admitted with AFB inserted in the anus between the years 2006 and 2015 in four different hospitals in four different cities in Turkey. Information relating to the AFB, clinical presentation, laboratory, and radiologic evaluation, treatment strategies, surgical approach, and postextraction follow-up and complications were collected. Approval for the study was obtained from the Ethics Committee of Ordu University, Turkey.

RESULTS

All 11 patients were male and the median age of the patients was 49.81 (23–71) years. The time for presentation to the removal of the AFB is a range of 2–96 h with a mean of 19.72 h. The purpose of inserting AFB was to stimulate erotic feeling in 10 patients, and one patient had inserted it for the treatment of constipation [Table 1]. The AFBs were one body spray can, two bottles, three dildos, two sticks, one water hose, one cornocop, and one pointed squash. Anorectal bleeding, anal pain, abdominal distention, abdominal pain, and tenderness were the common complaint in majority of the patients. According to the abdominal physical examination in five patients, abdominal tenderness, rebound, and muscle rigidity in lower abdomen were seen because of colonic perforation. In two patients, abdominal physical examination revealed abdominal distention and pain relating to subileus. The abdominal physical examination was normal in the other four patients. Six patients had anorectal pain and bleeding and five patients had normal anal examination. Ten patients tried to remove the AFBs before coming to the hospital.

Six patients of eleven (54.5%) had elevated white blood cell count. Abdominal roentgenograms were used to show the location of AFB in all patients [Figures 1 and 2]. In five patients, computerized tomography (CT) scans were performed for the perforation suspicion.

In this study, the patients except the five who had acute abdomen, we primarily tried to remove the AFB through

Table 1: Informations about the patients

Variable	Number
Number of patients	11
Median age	49.81 (23-71) years
Male/female	11/0
Purpose of the patients with AFB	Eroticism: 10 patients Constipation treatment: 1 patient
Trying to remove the AFB before admitting to hospital	10 patients
AFB removing through laparotomy	8 patients
AFB removing through transanally	3 patients
Median presentation time/h	19.72 (2-96) h
Median hospitalization time/day	6.18 (1-16) days

AFB=Anorectal foreign bodies



Figure 1: An abdominopelvic roentgenogram showed a bottle of deodorant

anal route in the clinic without anesthesia, but we failed in all patients because of the shape and location of the objects and limited dilatation capacity of the anus. AFBs in three patients were removed transanally by anal dilatation under general anesthesia. In eight patients, we needed laparotomy for the treatment. The objects removed from the patients were one body spray can, two bottles, three dildos, two sticks, one water hose, one cornocop, and one pointed squash.

Three patients had low located AFBs, and transanal extraction under anesthesia was enough for the treatment. In two of the three patients, the objects could be removed by digital examination, but in one patient, endoscopy was used to reach the foreign body. Routine rectosigmoidoscopic examination and postextraction abdominal roentgenograms were performed in the patients to rule out pneumoperitoneum, retained foreign body, and mucosal injury. There were no pneumoperitoneum, retained foreign body, mucosal injury, and free air.

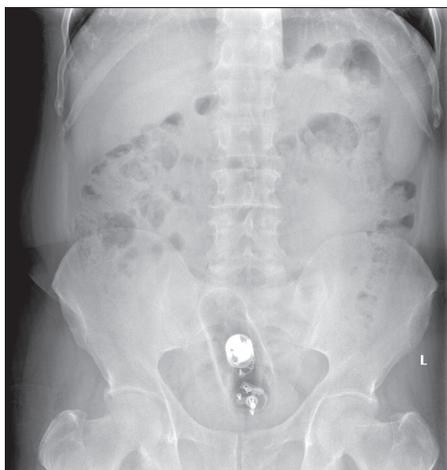


Figure 2: An abdominopelvic roentgenogram showed a vibrator

Eight patients needed laparotomy for extraction of foreign objects and seven of them, the AFBs were situated high above in the rectosigmoid junction and in remain. One was lying low in the rectosigmoid junction with perforation. Five patients with acute abdomen due to perforation underwent to surgical emergency. The perforations were treated by primary suture/proximal colostomy in four patients and primary suture/loop ileostomy in one patient. In three patients, rectosigmoidoscopy was performed, but foreign body could not be removed so the patients underwent surgery. Three AFBs were removed transanally by abdominal manipulation (milking) during surgery. The hospitalization time of the patients was changed 1–16 days with a mean of 6.18 days. One patient had abdominal abscess treated with antibiotics. There was no mortality in the study.

DISCUSSION

AFBs are important emergency surgery reasons due to the complications which are related with the objects. The incidence of AFBs is increasing, specifically in urban population.^[8,9] The majority of cases are male in their third and fourth decades.^[2,8,9] There is a bimodal age distribution with peaks in patients with AFB, and purpose of anorectal eroticism was seen in the twenties, and purpose of constipation treatment and prostatic massage was seen in the sixties.^[1]

In these cases, the patients usually present late to the hospital because of shame with incomplete medical history including the presence of the object.^[10,11] The patients usually try to remove the AFB at home. The efforts may damage to anorectal region of the patients and usually cause delay in presentation. A study by Kurer *et al.* found that 58.5% of the cases were admitted to the hospital on the same day and 32.1% of the cases 2–7 days after the event. Just one patient waited for

6 months after the event.^[2] In our study, 81.8% of the cases were admitted to the hospital on the same day and 18.2% of the cases 2–4 days after the event. The use of various instruments for removing the AFB before presenting in the hospital increases the risk for laceration and perforation of colon. The trials may push the foreign body further into the colon and may cause peritonitis, pelvic abscess, sepsis, anal sphincter damage, and anal bleeding.^[12]

AFBs can be introduced into the anus for sexual eroticism, self-treatment of anorectal disease, and constipation, during rape or accidents and drug smuggling.^[8,13,14] In the literature, 80% of cases with AFB occur for the purpose of anorectal eroticism, and 10% of cases occur for sexual assaults.^[14] Another interesting type of AFB is body packing which is used by drug traffickers.^[8] In our study, 90.9% of the cases with an AFB occurred for purpose of eroticism, and 9.1% of the cases with an AFB occurred for resolving the constipation problem. The objects which were inserted to anus are sex toys, bottles, cans, sticks, jars, pipes, tubes, fruits, vegetables, and stones.^[15] We can classify AFBs as high lying and low lying depending on their locations in relation to the rectosigmoid junction.^[16] Hard AFBs may cause perianal fissure, fistula, or abscess due to contact with anorectum.^[17]

Diagnosis of foreign body in the anorectal region depends on detailed clinical history, physical examination of anus and abdomen, abdominopelvic radiographies, CT, and rectosigmoidoscopy. The symptoms of foreign body in anorectal region are lower abdominal pain, anorectal pain, and bleeding.^[18] Majority of AFBs can be detected using lateral and anteroposterior plain X-ray film of the abdomen and pelvis.^[8,19,20] Chest radiographies should be performed to detect air under the diaphragm from perforation of the colon.^[21] We can see AFBs with plain radiographies, but nonvisualization of any material with X-rays does not rule out the presence of objects such as plastic material, candles, very thin glasses, fruits, and vegetables.^[8,19] The radiological visualization of a foreign body depends on its radiopacity.^[22,23] If the patient has a perforation suspicion or pelvic abscess, a CT scan is indicated.^[24,25] Laboratory tests in the patients with an AFB are not useful for the diagnosis but may be used in the patients with an AFB who have a perforation, and the white blood cell count may be elevated in these patients. It is important to note that physical examination is more useful than laboratory tests for detecting the extent of injury.^[26]

The therapeutical approach of AFB depends on the type of the object, the patient's clinical situation, and the location of the object inside the anorectal area.^[27] The location of AFBs is an important factor for therapeutical

management. If AFBs are above the rectosigmoid junction, they are often unreachable with fingers and rigid rectosigmoidoscopy, but if the AFBs are low lying from the rectosigmoid junction, they are palpable with digital examination and are candidates for clinic removal either manual manipulation or endoscopic extraction through anus. A lot of surgical and nonsurgical techniques have been defined to remove AFBs in the literature.^[28] In the majority of cases, AFB can be removed transanally with/without anesthesia, but if it fails, then, a transabdominal procedure should be used.^[1,8,29]

If the diagnosis of AFB is confirmed, the treatment strategy must be to remove it through the anal way, but this method can be difficult because of the shape of the foreign body, anorectal anatomy, sacral curvature, and anal sphincter spasm. If sufficient sphincter relaxation and anal dilatation cannot be obtained with proper anesthesia, lateral internal sphincterotomy can be done to remove the AFB.^[30] If the AFB is located high in the rectum or even in colon, colonoscopy or rectosigmoidoscopy is mostly helpful to withdraw and remove the foreign body. Direct vision of endoscopy protects the patients from iatrogenic injuries.^[9,31]

Depending on the size and shape of the objects, a lot of less invasive approaches have been defined in the literature to remove AFBs from anal route using foley catheter, Sengstaken–Blakemore tube, obstetrical forceps, and vacuum extractor.^[32] Direct visualization with rigid or flexible rectosigmoidoscopy is recommended in all cases, in whom AFBs are removed from anus to evaluate the status of the anorectum and rule out ischemia, wall perforation, and sphincter damage.^[8] For detecting the possible complications after the trials, patients should be kept under observation for at least 12–24 h.^[33]

If conservative methods fail, surgical approaches are indicated. More invasive procedures of AFB management are laparoscopy and laparotomy. Laparoscopic milking (withdrawing the proximally migrating AFB into the rectum with gentle transperitoneal pressure) method for transanal removal of AFB has been described in the literature.^[34,35] Laparotomy is the last treatment option and may be needed when removing the AFBs using the transanal approach failed or the presence of complications such as pelvic abscess, intraabdominal bleeding, and perforation. In laparotomy, milking is the first step, so the object pushes distally into the rectum and removal of objects through anal route. If the shape of the object is unfavorable for milking, we need a colotomy for the removal of the AFB. The colotomy can be primarily repaired with or without a stoma. If there is damage on the colonic wall, segmental colonic resection and anastomosis with/without a stoma can be done.

Stoma is essential for patients who have perforation with extensive fecal peritoneal contamination, signs of sepsis, and hemodynamic instability.^[1,8]

CONCLUSIONS

A careful assessment is the key point for the correct diagnosis and treatment of AFBs. Clinical conditions of patients and type of AFBs are important in the choice of treatment strategy. If the AFBs are large or proximally migrated or the patients with an AFB have acute abdomen due to perforation, pelvic abscess, obstruction, or bleeding, surgery is needed as soon as possible. There are different types of surgical approaches such as less invasive transanal extraction under anesthesia and more invasive abdominal routes such as laparotomy or laparoscopy. Stoma can be done if there is colonic perforation. In the management of AFBs, the first priority must be less invasive methods as possible.

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Conflicts of interest

There are no conflicts of interest.

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