Perforations and Foreign Bodies of the Rectum:

Report of 28 Cases

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A series comprised of 28 patients (five with perforations of the recto-sigmoid colon and 23 with lodged rectal foreign bodies) is presented. The symptomatology, physical, laboratory and x-ray findings are described. Methods of management are discussed, with emphasis on the operative management of perforations and the conservative approach to retained foreign bodies. It is felt that these protocols will be useful to physicians who see this practice less frequently. X-rays of two more unusual cases are depicted. A thorough review of the literature is also presented. This is the largest reported series of patients with retained rectal foreign bodies and/or perforations. The series includes two female patients, a heretofore unreported occurrence.

IN the last five years we have seen an increasing incidence of complications of foreign bodies inserted into the rectum for sexual stimulation. The exact frequency of this practice is not known, as we see only those individuals who either find it impossible to remove the object or those in whom perforation of the recto-sigmoid has resulted. It is, therefore, our feeling that a review of the literature, an analysis of our cases and suggested methods of management should be presented.

Material

In the 5 years from January 1, 1970 to December 31, 1974, 23 patients with lodged foreign bodies and 5 patients with recto-sigmoid perforations secondary to self-administered instrumentation have been treated at St. Vincent's Hospital and Medical Center of New York. They ranged in age from 16 to 56 years. There was a predominance of males; two females were in the non-perforated group.

Perforation

The five patients with perforations presented at varying intervals after the insertion of the object, complaining of left lower quadrant or generalized abdominal pain which was sudden in onset. Two patients did not readily admit to rectal instrumentation, but a high index of suspicion led to repeated questioning and eventual discovery of the correct etiology of the pain. The perforations were caused by a broom handle, a vibrator, a plantain (banana), a soda bottle, and a long rubber phallus-like device. Physical findings of acute surgical abdomen were noted in all. They had absent bowel sounds, tenderness, guarding, and rebound tenderness especially in the lower abdomen. Rectal examination revealed small amounts of gross blood. Free air was noted under the diaphragm on upright abdominal x-rays on three occasions. White blood cell counts were elevated over 20,000 cells/cc. Sigmoidoscopy was not performed in any case in which perforation was suspected.

At surgery, all patients were found to have anterior lacerations of the recto-sigmoid colon. The perforations ranged from 3 cm to 7 cm in length. In no case

Submitted for publication January 12, 1976.

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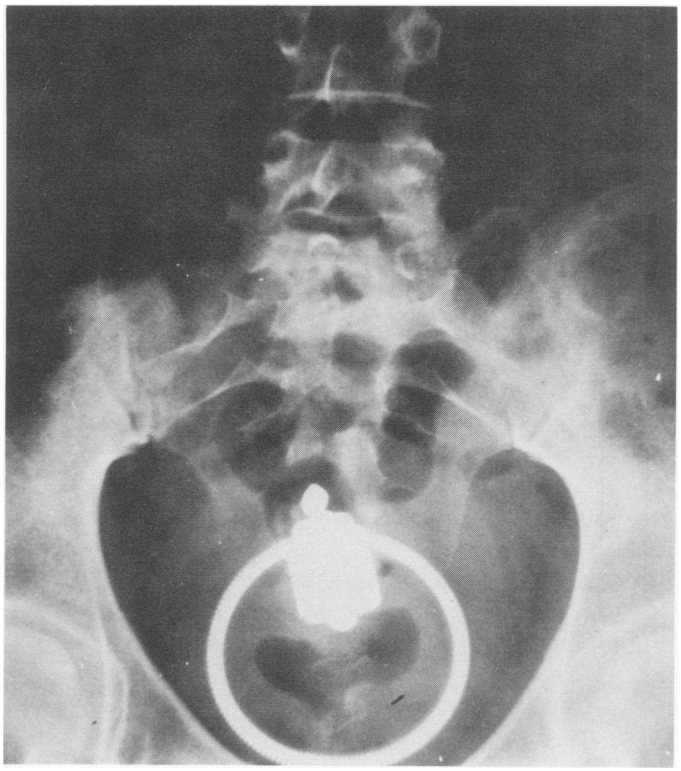

FIG. 1. X-ray of female patient with vibrator in rectum and diaphragm in vagina.

did the peritoneal cavity contain gross fecal contamination. This may be explained by the fact that four of the 5 patients had given themselves enemas prior to instrumentation. The lacerations were treated by direct suture and proximal colostomy in 4 cases and by exteriorization of the perforation in one case. All patients were discharged from the hospital for closure of colostomy at a later time. Complications included three wound infections and one incisional hernia. The average length of stay after the first procedure was 19 days. Continuity of the bowel has been restored in all cases.

Retained Foreign Bodies

Of the 23 patients who presented with foreign bodies lodged in the rectum, 15 patients were successfully treated in the emergency room. Eight patients required overnight hospitalization and removal the following day. Four objects were removed in the endoscopy suite, and the other four were extracted in the operating room under general anesthesia. We have not found it necessary to perform laparotomy and colotomy on any patient.

The foreign bodies consisted of 11 plastic battery-powered vibrators of varying dimensions (Fig. 1), five hard rubber phallus-like devices, two bananas, two bottles, one plastic toothbrush package (Fig. 2), one apple and one onion.

There were no serious sequellae of either the presence or removal of the foreign bodies. Seventeen patients were sigmoidoscoped after removal and abrasions and small lacerations limited to mucosa were noted in all.

Management Protocol

The patient who presents in our Emergency Room with lower abdominal or rectal pain is always questioned regarding a history of rectal instrumentation. If a history of recent insertion of foreign body into the rectum accompanied by sudden onset of sharp unremitting lower abdominal pain is obtained, the patient is examined for signs of acute surgical abdomen. CBC, supine and erect abdominal x-rays are performed and intravenous fluids started.

If perforation of the colon has occurred, antibiotics are begun and immediate laparotomy is done. The perforation is either exteriorized or repaired with complementary transverse colostomy. Closure of colostomy is done during a later admission after barium enema shows healing at the perforation site. Interestingly, in all of our 5 cases of perforation the patient was able to remove the foreign body prior to coming to the hospital.

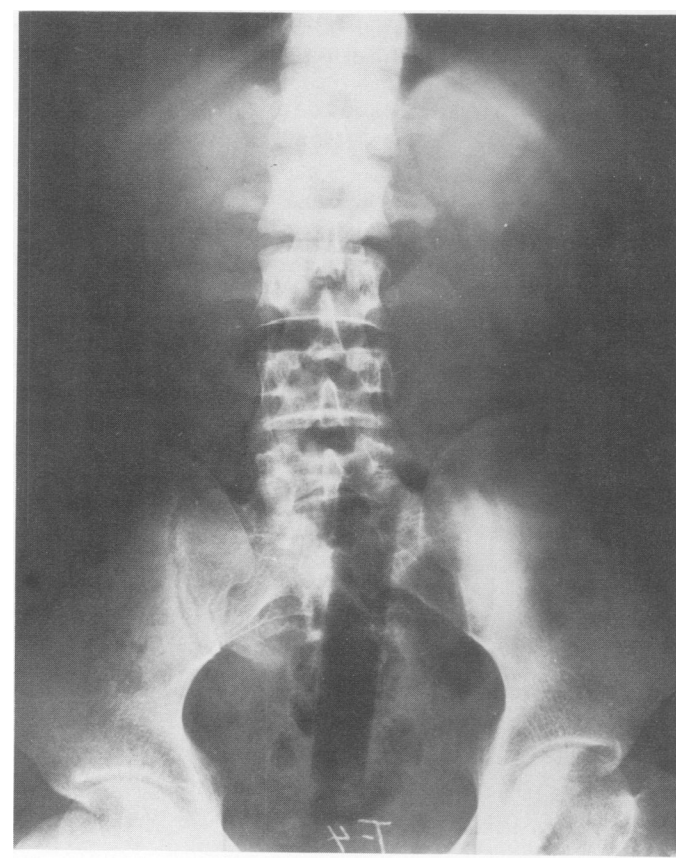

FIG. 2. X-ray appearance of a rectangular toothbrush package.

If the problem is one of inability of the patient to remove the lodged foreign body and physical examination does not demonstrate signs of peritonitis, rectal or bimanual exam usually reveals the presence of the object. A moderate amount of rectal or lower abdominal discomfort may be present. X-rays are taken to assess the size and position of the device. Plastic vibrators will be depicted as only batteries and wires. Bottles and other air-containing objects will be obvious. Rubber devices may not be visible.

Once the above diagnostic manuevers are accomplished, the patient is given mild sedation and placed in the lithotomy position. The prone or the Sims positions may also be used. Local anesthetic agents may be infiltrated to relax the anal sphincters but was not necessary in our cases as these patients tend to have patulous sphincters. Digital rectal examination reconfirms the position of the object. Then through an anoscope or sigmoidoscope, attempts are made to grasp the device with biopsy forceps, a snare, or other suitable instrument being careful not to advance the foreign body further cephalad. Alternatively, the ano-rectal area can be dilated with suitable retractors.

If this fails, a gloved hand may be inserted to grasp the object and "deliver" it. Gentle bimanual palpation may be helpful. Unusual foreign bodies (glass tumblers, light bulbs, fruits, vegetables) may have to be dealt with in other ways. Rarely, Plaster of Paris,[14] obstetrical forceps,[10] packing with cotton,[5] and sectioning have been employed.

Occasionally, the object may be too high in the recto-sigmoid to be grasped by any means. Our policy is to admit the patient, sedate him, and place him at bed rest. We have found in every case that within 12 hours the foreign body will descend into the rectum within easy reach. General or spinal anesthesia may be used to obtain further relaxation of the sphincters. After removal, sigmoidoscopy must be performed to assess mucosal injuries.

Discussion

There are several means of access to the rectum by foreign bodies. 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 first four listed are mentioned for the sake of completeness.

Foreign bodies become lodged in the rectum for several reasons. First, the objects inserted tend to be tapered at one end and flat at the other. Secondly, the sphincters and valves may prevent extraction mechanically. Thirdly, in an effort to achieve greater stimulation the device may be inserted farther than intended. Finally, long straight objects may be unable to negotiate the curves of the sigmoid and sacrum.

There are numerous reports in the literature concerning interesting an unusual foreign bodies. Wagner[14] mentions some of the earlier reported cases. Morand, addressing the Academy of Paris, related the instance of a bottle inserted by a monk which had to be retrieved by a boy with a small hand. Some students inserted a frozen pig's tail into the rectum of a prostitute, and when it thawed, the bristles prevented its removal. It was finally extracted by ingeniously inserting a hollow reed over the bristles and tail, allowing removal of everything at once. Wagner also noted a 900 gm, 17 cm stone and a 6 by 5 inch, 22 ounce tool box which a convict inserted unknown to his doctors. These objects were found after intestinal obstruction led to death. Wagner reported the first use of Plaster of Paris molded into the hollow of a glass to facilitate its removal.

Others describe bottles,[2,8,10,12,13] a broom handle,[11] an umbrella handle,[7] a light bulb,[5] a plantain encased in a condom,[6] two gauze packs from prior anal surgery, toothpicks, bones, seeds, dental fillings, a teacup, an oil can, two carrots, two vaseline jars, thermometers, a test tube,[13] a whiskey bottle with attached cord,[8] and a lemon inside a cold cream jar.[15] Butters[1] 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[9] reported perforation of the rectum caused by the foot of a breech baby with the anus remaining intact. A similar case reported by Gustafson et al.[3] is that of an entire fetus which presumably eroded into the rectum.

The psychology of the act of rectal instrumentation for sexual stimulation is reviewed by Haft and Benjamin.[4] They state that there are no reported cases of rectal auto-eroticism with resulting rectal entrapment in females. Herein, we have reported two cases.

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