Retained rectal foreign body (FB) is no longer a medical oddity, it is encountered frequently.\textsuperscript{1-3} Anorectal eroticism with a wide variety of phallic substitutes comprised most of the cases.\textsuperscript{1,4-6} The presence of such FB in the rectum has always been a challenge to the physicians taking care of these patients and numerous ingenious approaches have been devised to remove these impacted objects. To date, there are many journal articles addressed on this issue; however, the majority of them have been mainly in the form of case report and from Western countries. The present study was a review on the authors’ experiences in such cases.

**Methods.** Data from January 1979 to January 2000 were extracted from a computerized database of Taipei Veterans General Hospital. The clinical features, treatment strategies and outcomes were analyzed.

**Results.** Ten male patients (mean age: 57.0 years) with 12 presentations of retained rectal foreign bodies were collected. Glass bottles and vibrators were the most common objects encountered, while anal eroticism was reported as the reason for insertion in 50\% of the cases. The majority of the objects were extracted by non-surgical methods through either anoscope (n = 4), rigid sigmoidoscope (n = 2) or colonoscope (n = 1). Obstetric forceps was utilized to remove an incarcerated bowling bottle. Emergent laparotomies were performed in cases with overt peritonitis (n = 2), pelvic sepsis (n = 1) and an impacted high-lying glass bottle. Minor complications, such as mucosal abrasion or superficial tear, were found in 62.5\% of the non-surgically treated cases. Delayed bleeding was found in 2 of them. There was no mortality in our series.

**Conclusions.** Despite its rarity, the retained rectal foreign body had varying clinical features. Most of the uncomplicated rectal foreign bodies could be simply extracted transanally under adequate anesthesia. Fiberoptic colonoscopic extraction provided an alternative choice. Open surgery should be reserved only for those patients with overt peritonitis or pelvic sepsis.

**METHODOLOGY**

A retrospective review of medical record was performed for all patients diagnosed as having retained rectal FB and admitted to Taipei Veterans General Hospital from January 1979 to January 2000. Those cases with retained FBs as a result of oral ingestion were excluded. Data were collected regarding the year of occurrence, nature and location of the FB, etiology, methods and anesthesia of removal, hospital stay and any related complications were also recorded.
RESULTS

Over the period of study 10 patients with 12 presentations of retained rectal FB were collected. All the patients were male aged from 2 to 76 years (mean 57.0 years). The clinical data of the patients are demonstrated in Table 1. One of the patients experienced 3 episodes of retained FB (cases 1, 2, 7). Vibrators and glass bottles were the most common FBs encountered and each comprised one third of the cases. Anal eroticism was reported as the reason for insertion in 6 cases (50%), while 2 patients claimed that the objects were inserted accidentally when they were smoothing their hemorrhoid. One patient stated that the glass bottle slid into his rectum when he was cleaning the parasites in his anus. Another patient accidentally sat on the bowling bottle with the base of the bottle facing cephalad, thus to make an unusually huge retained rectal FB (Fig. 1). Case 9 suffered from perianal abscess due to a retained cotton ball after an anal surgery (fistulotomy).

Table 1 Clinical data of patients with retained rectal foreign body

<table>
<thead>
<tr>
<th>No.</th>
<th>age</th>
<th>year Occurrence</th>
<th>type of FB</th>
<th>location</th>
<th>etiology</th>
<th>method of removal anesthesia</th>
<th>complication</th>
<th>hospital stay (days)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>68</td>
<td>1979</td>
<td>glass bottle</td>
<td>high</td>
<td>anal eroticism</td>
<td>exp. lapa, milking + transanal /SA</td>
<td>tear of sigmoid colon serosa</td>
<td>7*</td>
</tr>
<tr>
<td>2</td>
<td>69</td>
<td>1980</td>
<td>cucumber</td>
<td>low</td>
<td>anal eroticism</td>
<td>exp. lapa.+colostomy /GA</td>
<td>nil</td>
<td>14†‡</td>
</tr>
<tr>
<td>3</td>
<td>55</td>
<td>1980</td>
<td>glass bottle</td>
<td>low</td>
<td>anal eroticism</td>
<td>rigid sigmoidoscopy biopsy forceps /GA</td>
<td>mucosa abrasion</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>56</td>
<td>1983</td>
<td>glass bottle</td>
<td>low</td>
<td>clean parasites</td>
<td>transanal ring forceps /SA</td>
<td>bleeding</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>64</td>
<td>1984</td>
<td>vibrator</td>
<td>high</td>
<td>anal eroticism</td>
<td>exp. lapa. +colostomy /GA</td>
<td>nil</td>
<td>14†‡</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>1985</td>
<td>thermometer</td>
<td>low</td>
<td>accident</td>
<td>rigid sigmoidoscopy biopsy forceps /GA</td>
<td>mild mucosa abrasion</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>75</td>
<td>1986</td>
<td>glass bottle</td>
<td>high</td>
<td>anal eroticism</td>
<td>exp.lapa.+colostomy /GA</td>
<td>nil</td>
<td>13*†‡</td>
</tr>
<tr>
<td>8</td>
<td>76</td>
<td>1991</td>
<td>vibrator</td>
<td>low</td>
<td>smoothing hemorrhoid</td>
<td>transanal Kalley clamps/HS+LA</td>
<td>nil</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>74</td>
<td>1994</td>
<td>cotton ball</td>
<td>low</td>
<td>packing anal eroticism</td>
<td>I&amp;D/SA</td>
<td>nil</td>
<td>7</td>
</tr>
<tr>
<td>10</td>
<td>55</td>
<td>1994</td>
<td>vibrator</td>
<td>low</td>
<td>anal eroticism</td>
<td>transanal Kalley clamps/SA</td>
<td>mucosa abrasion</td>
<td>1</td>
</tr>
<tr>
<td>11</td>
<td>50</td>
<td>1999</td>
<td>vibrator</td>
<td>high</td>
<td>smoothing hemorrhoid</td>
<td>colonoscopic snaring/nil</td>
<td>mucosa abrasion</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>40</td>
<td>2000</td>
<td>bowling bottle</td>
<td>low</td>
<td>accident</td>
<td>obstetric forceps /GA</td>
<td>mucosa abrasion</td>
<td>2</td>
</tr>
</tbody>
</table>

FB = foreign body; GA = general anesthesia; SA = spinal anesthesia; LA = local anesthesia; HS = heavy sedation; exp. lapa.: exploratory laparotomy; * One patient with three presentations of retained rectal foreign body; † Presented with peritonitis; ‡ Presented with pelvic sepsis.
presacral space was drained. Another patient presented with a high-lying glass bottle in the sigmoid colon. The surgeon, initially, believed that the bottle could be safely extracted through laparotomy alone (case 1), but it was milked down to the rectum and retrieved from the anus.

Extraction of the FB was not attempted at the emergency room. All the patients were taken to operative room, where, under adequate anesthesia, various instruments were tried to remove the FBs. The FBs were extracted by ring forceps, Kocher clamps or Kalley clamps through a large Ferguson anoscope (n = 3), or by biopsy forceps through rigid sigmoidoscope (n = 2). The retained bowling bottle (case 12) was broken at the neck with a previous extraction at a local regional hospital. It was also without any grasping edge and blocked bilaterally by the ischial tuberosities. After the failure in several attempts by a variety of clamps or clips, the obstetric forceps finally succeeded in removing the bowling bottle. The vibrator in case 11 was first pushed proximally and then separated into 2 parts at the operating room (Fig. 2). He was admit-

![Fig. 1](image1.png)

**Fig. 1.** Biplane roentgenograms of the abdomen and pelvis of a 40 year-old male showed a bowling bottle in his rectum with the base directed cephalad. The bottle was broken at the neck during a previous attempt of extraction.

![Fig. 2](image2.png)

**Fig. 2.** Biplane roentgenograms of the abdomen and pelvis of a 50 year-old male showed a vibrator in the rectosigmoid junction. It became separated during a previous trial of extraction.
ted for observation. By further using polypectomy snare through colonoscope, the vibrator was successfully removed in the next morning.

All the patients had rigid sigmoidoscopy following non-surgical extraction (n = 8) in order to identify any mucosa injury. Five of them developed mucosal abrasion or superficial tear and were kept for observation against any delayed complications. Nevertheless, bleeding occurred in two patients (cases 3 and 4), after conservative treatment and stopped spontaneously. Both patients were kept in hospital for 3 more days.

The average hospital stay was much longer in patients treated by open surgery than in those treated transanally (12.0 vs. 2.4 days). There was neither major complication nor mortality in our patients.

**DISCUSSION**

There tends to be more reports on retained rectal FBs over the last decade in the western countries; however, the presentations of such cases in the eastern countries were less understood. Contrary to what might be expected, the present study demonstrated much fewer cases of retained rectal FBs (12 cases in 21 years). The number of the cases showed no evidence of a tendency for increase in the study period, either, the mean age of the patients was slightly older than previous reports. Nevertheless, the male predominance seemed quite consistent with the reports from Western countries.

Patients presenting to the emergent department were usually not forthcoming with the etiology of their complaints. They most often gave the complaint of anal pain and bleeding (66.7% of the cases); and, unsurprisingly, a history of anal introduction was given in only 33.3% of the cases. Similar observations have also been reported. It has been known that the clinical history given for sexually related injuries are often vague and nonspecific because of embarrassment and fear of humiliation. Thus a high index of suspicion was necessary to clinch the diagnosis and administer prompt treatment, especially when a lax anal sphincter with bloody rectal discharge was found on a digital examination. A cautious anorectal digital examination not only allowed palpation of the low-lying objects but also helped disclose possible complications caused by the FBs. The presence of tarry mucoid rectal discharges with a necrotic odor raised the suspicion of gangrene of the rectum on case 2. A careful abdominal examination should also be performed to assess signs of peritonitis or the ability to palpate an object in the abdomen. Biplane roentgenograms of the abdomen and pelvis are required to determine the presence, number, shape, size, location and direction of the FBs. This information is paramount in planning the extraction maneuver.

The variety of rectal FBs was far beyond our imagination and required different strategies for safe removal. Extraction of the FBs should only be attempted after adequate relaxation of the anal sphincter, which, we believed, could only be achieved in the operating room with the assistant of an anesthesiology specialist. Therefore, in contrast to previous reports, all the cases, aside from those who needed laparotomy, were taken to operating room. General or spinal anesthesia was used in 6 patients who underwent transanal extraction of the foreign bodies; whereas one patient received local anesthesia for a retained vibrator at his low rectum. Anoscopy or sigmoidoscopy should be utilized to remove the FB under direct vision to avoid iatrogenic injury. If a grasping edge could be obtained, grasping forceps or clamps provided simple methods of removal. Five of the 8 low-lying objects were successfully removed by this method. However, for objects that were too large or without any grasping edge many ingenious methods (e.g. vaginal spatulas, suction devices, wire and plastic snakes, uterine vulsellum) have been described to retrieve the FBs. FBs made of glass required special attention. Effort should be made to remove the object intact without breaking it. Utilization of padded retractors may be helpful. Furthermore, if the open end of the glass is directed cephalad, this will cause negative pressure within the glass and draw the mucosa into the mouth of the container. One easy way of overcoming the suction effect is to introduce one or more Foley catheters around the object and to inject air around the opening of the container after inflating the balloons of the catheters. Applying traction to the catheters will help remove the object. For objects that are not fragile obstetric forceps provided
several advantages. First, the 2 blades of the forceps could be introduced separately to either side of the FB; to this allow positioning of the instruments in an already occupied, narrow space. Second, the forceps endured great strength on it, thus allowing the operator to apply effort on the object obstructed by the ischial tuberosities. Nevertheless, care must be taken to avoid injury to the anal sphincter.

At times, the low-lying objects could migrate rather proximally in process of manipulation. The FB thus became a high-lying object. It was suggested that in the absence of acute abdomen, admission to hospital and sedation should result in descending of the FB that could then be treated as low-lying objects.4,7,10 The vibrator, in spite of observation for 12 hours, remained in the rectosigmoid junction (Fig. 2). At this point we decided to try colonoscopic retrieving, which successfully removed the vibrator. Several advantages have been advocated with colonoscopic removal.18,19 First, it is capable of retrieving objects at a greater distance from the anus. Second, there was no need to dilate the anal sphincters wider than the foreign body itself in order to introduce the grasping instruments. Third, the patients required neither anesthesia nor sedation and, in this way, they could help to push the FBs by a Valsalva maneuver. Actually, after colonoscopic removal of the distal part of the vibrator, the patient pushed out the proximal part of the vibrator and the batteries.

A laparotomy for removal of the FB is rarely indicated; however, in patients with overt peritonitis or pelvic sepsis that results from perforation of the bowel, the large size foreign bodies or glass bottle with broken sharp edge toward the anus which are hardly removed from the anus, exploration should be necessary. The principles of repair or resection of the injured bowel, fecal diversion, cleansing of the distal bowel and presacral drainage have been well established.4 Nevertheless, for patients with impacted high-lying objects without complication, the strategy of treatment could be of controversy. Some authors proposed laparotomy with milking down and retracting the object transanally or through a colotomy if the object is too big to be removed from below.2,20 Recently, the flexible fiberoptic colonoscope, as mentioned above, has been utilized in such cases with a considerable successful rate.7,18,19 It was even suggested that colonoscopic retrieval could be considered as the first step in the management of these patients.19

Following extraction of the FBs proctosigmoidoscopy is mandatory to rule out bowel injury or missed FB. Minor injuries, such as abrasion or superficial tear of the mucosa, are quite common and can be treated conservatively. Preferably, all these patients should be referred for psychological evaluation so they may gain some psychological benefit in dealing with their ongoing fetish. The goal of the counseling would be to avoid similar problems in the future, determination of a treatable psychiatric disorder and minimizing psychological trauma to patients in assault cases.1,7

In conclusion, FB in the rectum represents a management difficulty. Most of the uncomplicated rectal FBs could be simply extracted in the operating room with adequate anesthesia; but fiberoptic colonoscopic extraction provided an alternative choice. Open surgery should be reserved only for those patients with overt peritonitis or pelvic sepsis.

REFERENCES

7. Ahmed A, Cummings S. Novel endoscopic approach for re-