

## Rectal Impaction With Epoxy Resin: A Case Report

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We describe a unique case of a patient presenting with rectal impaction following self-administration of a liquid used as masonry adhesive for anal sexual gratification. The solidified matter required laparotomy for its removal. Strategies for removing rectal foreign bodies are discussed as well as other consequences of inserting foreign material per rectum. (*J GASTROINTEST SURG* 2005;9:747-749) © 2005 The Society for Surgery of the Alimentary Tract

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Since the early days of medical journalism, reports describing the complications caused by the insertion of foreign objects into the rectum for sexual stimulation have been numerous. An exhaustive list of substances used for anal erotic enjoyment would include animal, vegetable or mineral materials in a liquid, solid or gaseous state. Patients presenting with rectal foreign bodies are predominantly men.

We report an unusual case of rectal impaction resulting from the deliberate injection of a type of glue for sexual pleasure. We believe this to be the first reported case of the unaided insertion of an adhesive material into the rectum for erotic stimulation. A discussion of the use and abuse of enemas and various methods of removal of rectal foreign bodies follows.

### CASE REPORT

A 27-year-old unemployed young man presented with lower abdominal discomfort following injection of a liquid adhesive per rectum 5 hours previously. He injected the viscous liquids into his rectum via a dual-chambered glue gun, resulting in an instantaneous exothermic reaction that caused the mixture to solidify and become fixed internally. He had no previous history of bowel disorder or psychiatric disturbance. The patient admitted he had done this for

anal erotic enjoyment. The apparatus was examined carefully, but apart from a company name and a product code number, there was no clue as to what chemical had been present in the dual-chambered gun. A general Internet search using just the company name and the product code number was performed. This led us to an exact photograph of the glue gun and a precise description of the adhesive. The product contained 330 ml of epoxyacrylate resin. The resin was supplied as a dual cartridge, which, in addition contained dibenzoyl peroxide and styrene. Final mixing of the chemicals occurs in the nozzle upon squeezing the applicator gun trigger, discharging both chambers simultaneously. It is meant for use in the building and construction trade as a masonry adhesive.

On examination the patient looked well. His vital signs, including temperature, pulse and blood pressure, were normal. There was minimal lower abdominal tenderness but no distension or palpable masses. On rectal examination, a rock-solid foreign body was both visible and palpable just inside the anal sphincter. A plain abdominal x-ray showed a radioopaque foreign object following the exact contour of the rectum stretching from the anal canal to the rectosigmoid junction (Fig. 1). There was no obvious dilatation of bowel loops and no sign of free intraabdominal gas.

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**Fig. 1.** Plain abdominal-radiograph showing the impacted material.

Advice was sought by telephone from the National Poisons Information Service at Guy's & St Thomas' Hospital, London. They reported that systemic effects from these chemicals were unlikely, but local chemical and thermal irritation was very possible. Additionally, full-thickness erosion was also a potential hazard. It was suggested that oily enemas might be useful in dislodging the solidified epoxy resin. As the masonry adhesive had molded itself to the contour of the rectum extending for a considerable length (about 16 cm) and caused complete blockage of the lumen, conservative treatment was not an option. The decision was made to take the patient to the operating room and attempt removal of the foreign body under general anesthesia. The patient was aware of the possibility of the need to proceed to laparotomy and colostomy to remove the foreign body. It was not possible to mobilize the foreign body transanally. Therefore, the abdomen was opened through a lower midline incision. With gentle manipulation of the rectosigmoid junction, it was possible to deliver the rock-hard material through the anus along with copious mucus discharge and a small amount of blood. The rectal wall was intact with no leaks as confirmed by air and water tests. Sigmoidoscopy showed edematous and inflamed rectal mucosa. Bearing in mind the possibility of full thickness "burn" of the rectal wall and potential risk of later perforation, a loop sigmoid colostomy was raised in the left iliac fossa and the abdomen was closed. Examination of the specimen revealed a perfect stony cast of the rectum, 16 cm long and 300 g in weight (Fig. 2). Grooves in the mass were consistent with rectal mucosal folds.

The patient made an uneventful recovery. Psychiatric counseling was offered to the patient, but he declined. Flexible sigmoidoscopy 6 weeks later



**Fig. 2.** Specimen after extraction from the rectum.

revealed normal and healthy mucosa with no strictures. The stoma was reversed without complication.

## DISCUSSION

The introduction of foreign bodies into the rectum is not uncommon in medical literature. Objects can be inserted into the rectum for diagnostic or therapeutic purposes, for self-treatment of symptomatic anorectal disease, for sexual erotic activity, by criminal assault, or by accidental occurrence.

The list of objects used for criminal or sexual purposes is exhaustive and is growing. About half of these retained objects tend to be designed originally for the purpose of rectal stimulation, such as toy phalluses or vibrators. The diagnosis is usually easy to establish from the history and a physical examination aided by radiology.

Enemas are mainly used in medicine for diagnostic or therapeutic purposes. Their use as a source of sexual gratification has also been known for a considerable period. The term "klismaphilia" was coined by Denko in 1973 for subjects who used enemas as the primary agents for seeking sexual pleasure.<sup>1</sup> Enemas can induce pleasure by causing mechanical distension of rectum by gas or liquid, which then causes stimulation of nerve endings supplying pelvic organs. Additionally, chemicals can induce pleasurable experiences by causing irritation and rapid absorption. Various solutions are used, including plain water, soap suds, coffee, yogurt, and alcoholic beverages. Drugs used

for this purpose include mainly sedatives and hypnotics.

The use of enemas is not without danger and the consequences of excessive use can even be life threatening. Complications may include impaction, mechanical trauma, infection, hemorrhage, chemical colitis, anaphylactic reactions, embolism, and, in the longer term, formation of strictures. In extreme circumstances, major complications can occur such as complete large bowel obstruction and perforation with possible progression to fecal peritonitis.<sup>2-5</sup>

A useful classification of rectal foreign bodies is based on the extent of injury caused and includes four categories, with category one being retained foreign body causing no injury, category two causing non-perforative mucosal laceration, and categories three and four representing sphincter injury and rectosigmoid perforation.<sup>6</sup> Alternatively, they can be classified as high-lying or low-lying to help with the initial approach to the problem and in formulating an ultimate treatment plan.<sup>7</sup>

With adequate sedative relaxation aided by local anesthetic, transanal removal in the emergency department may be feasible for most types of foreign bodies in the rectum, avoiding laparotomy.<sup>8</sup> This applies more so to the majority of objects in the lower or mid-rectum up to a level of 10 cm. The conscious patient may be able to assist with a Valsalva maneuver. Sometimes spinal or general anesthesia becomes necessary because of pronounced muscle spasm and significant patient discomfort. Those in the upper rectum may require laparotomy for retrieval.<sup>9</sup> This offers the additional advantage of transabdominal manipulation to aid transanal recovery of an impacted foreign body. Occasionally, colotomy has been performed for removal.<sup>10</sup> Recently, some foreign bodies have been successfully removed endoscopically using novel methods.<sup>11</sup>

A Medline search from 1966 to the present showed only one paper describing a scenario similar to ours. Stephens and Taff, in 1987, presented a patient who was voluntarily given a concrete enema that was introduced by his sexual partner.<sup>12</sup> Removal required a general anesthetic and anal dilatation. Transanal delivery of the solidified concrete mix was then possible without abdominal surgery. The appearance of the rectal mucosa was hyperemic and edematous on visualization with a sigmoidoscope. There were no persisting injuries to the bowel in the long term. Through this search we realized that ours was a unique case, and we believe that it is the first reported case of the unaided insertion of an epoxy resin adhesive into the rectum for anal erotic stimulation.

As in the aforementioned case, we attempted to remove the hardened resin through the rectum by digital manipulation aided by oily enemas. Since the foreign body had molded itself so well to the contours of the rectum, all the options that were attempted for nonoperative removal failed. To prevent any further trauma to the rectal mucosa, progression to laparotomy was necessary. We considered that formation of a temporary diverting colostomy was the safest management plan to allow healing to occur and to reduce the potential complications of late perforation.

We stress the potential danger created by manufacturers who produce hazardous materials but fail to label the product with details of their contents. Additionally, health warnings or advice printed directly on the external casing may speed diagnosis and treatment in the event of a medical emergency. It may even prove to be life saving. In this case, we were able to discover the chemical composition of the substance via the Internet, and base our management plan on that information.

As the exploration of anal eroticism increases in popularity, more and more cases of complications as a direct result of their abuse are likely to be encountered. Ingenuity and patience are advocated in attempting their removal. Patients should be offered psychosocial counseling.

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