Management of Swallowed Foreign Body

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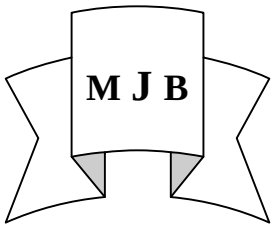

Abstract

Two boys, aged 9 & 2 years who had each swallowed a nail are reported. Both nails were iron and about 5 cm long; one had a pointed end, the other was blunt at both ends. Conservative expectant treatment was successful. The nails passed out in 50h in one case & 120h in the other without causing ill effects.
The different types of swallowed foreign bodies in the gastro-intestinal tract, their clinical features, methods of diagnosis and management, with possible complications are described.

الخلاصة

يتناول هذا البحث وصفا تفصيليا لولدين عمر احدهما تسع سنوات و الأخر سنتان بلع كل منهما مسمارا . كان كلا المسمارين من الحديد و طولهما حوالي 5 سم. كان المسمار الأول ذو راس مدور و نهاية مستدقة الرأس بينما كانت نهايتا المسمار الأخر كليلتين و ناعمتين.

اتبعت المعالجة المحافظة الترقيبة في الحالتين و كانت النتائج جيدة، فقد خرج المسمار في حوالي 50 ساعة في الحالة الأولى و120 ساعة في الحالة الثانية دون أن يسبب أية تأثيرات مرضية.

نوقشت في هذا البحث الأنماط المختلفة للأجسام المبتلعة في السبيل المعدي المعوي و كذلك الملامح الــسريرية وطــرق التــشخيص و المعالجة مع الاختلاطات الممكنة.

Introduction

Foreign bodies are swallowed either accidentally or deliberately. By far the most common sufferers are children and the elderly. A large variety of bizarre things, ranging from small blunt harmless objects to long sharp pointed &potentially dangerous objects, are swallowed by normal people and by mentally retarded and unbalanced individuals. The foreign body may travel the entire length of the gastro-intestinal tract and come out through the anus without causing any ill effect, or may get impacted leading to ulceration, perforation and subsequent complications even resulting in the death of the individual. A number of methods for removal of swallowed foreign bodies from the gastro-intestinal tract have been advocated. In the light of the clinical relevance of two cases seen within a short span of time we deemed it appropriate to present our experience with swallowed foreign bodies, and at

the same time to review the relevant literature on the subject.

Case No.1

A boy aged 9 years 6 months was brought to the us, by his father on the evening of 24 August1999 with the complaint that the child had accidentally swallowed a nail about 2h earlier. The patient had not experienced any discomfort, pain or any other sensation in the chest or abdomen. On examination, he appeared a little anxious but otherwise normal. His abdomen was soft and not tender. PlainX-ray of the abdomen revealed a nail lying in the stomach. He was admitted to hospital for observation, and was put on a soft diet. An X-ray of the abdomen the next morning showed that the nail had passed through the pylorus and was lying somewhere in the small intestine. The child remained symptom free and the X-ray of the abdomen on the same evening showed the nail lying in the right lower quadrant of the abdomen, probably near the ileocoecal region with the sharp end pointing upward and medially the patient continued to be symptom free, ate well and passed a well-formed stool which contained no blood . An X-ray of the abdomen the following morning (26 August) revealed the nail to be at the same site but with its blunt end now pointing upward. At about 5 pm the child had a well-formed stool and passed the nail along with the faeces. It was showed to the patient and his father for their satisfaction. A subsequent X-ray of the abdomen was normal and the child was discharged in good condition on the morning of 27 August.

Case No.2

A 2-year-old male child was holding a5cm long blunt metal nail in his mouth when he inadvertently swallowed it at 9:30 p.m. on 17 November 1999. His father brought him to us immediately .He was attended by the surgical word on examination we found no abnormal physical signs. An X-ray of the abdomen showed the nail lying transversely in the stomach. He advised admission of the child for abservation and treatment. On 18 November 1999, the child passed a normal stool. A plain X-ray of the abdomen revealed the nail to be lying somewhere in the small bowel. The patient had no complaint. On examination the abdomen was soft and not tender. On 19 November, the child doing well. On 20 November, at 4 p.m., he was again X-rayed and the nail was now found to be in the caecum or the lower part of the ascending colon. The child remained symptomless. On the night of 21 November the child passed a stool; and again on 22November, at about 8:30 p.m., the child passed a well-formed stool which contained the nail.The nail had remained for nearly 120h in the gastro- intestinal tract of the patient.

Discussion

Foreign bodies gaining access to the gastro-intestinal tract have been classified into three types [1] swallowed foreign body [2] bezoars [3] transmurally introduced foreign body.[1] However, the most commonly encountered foreign body is the one that has been swallowed by the patient, either accidentally or deliberately for suicidal purposes. Infants and toddlers have a tendency to put whatever they grasp into their mouth.The highest incidence of ingested foreign bodies is in the chilren between 6 months and 3 years of age.[1,2] In mentally unbalanced persons it may be a compulsive habit or a suicidal effort to swallow a wide variety of foreign bodies. Chalk and Foukar3

described the case of a manic depressive patient from whom 2533 forehign bodies were removed at laparatomy. Professional jugglers swallow a mixture of dangerous foreign bodies which sometimes produces problems and complications. Children generally swallow coins, screws, buttons, marbles, safety pins, small toys, bones and a variety of other small articles. Large foreign bodies like table knives, forks and a tooth brush,[4] bones and a cigarette lighter [5] have been swallowed by adults. Edentulous old persons quite often accidentally swallow their false dentures. Those who have been using upper dentures for a long time lose some degree of their palatal sensitivity [.6,7] During sleep or under the effect of an intoxicant the denture can easily slip into the oesophagus as happened in a case treated by one of the authors. A bolus of food can sometimes function as a foreign body causing obstruction in a partially stenosed gastro- intestinal tract[8]. Bones are swallowed accidentally and can cause perforation.[9] Nandi and Ong[10] found bones of fish, chicken and other animals to be the most commonly swallowed foreign body bothin children and adults in their large series of 2394 cases of foreign bodies in the oesophagus. The size and shape of the foreign body influences its passage inside the gastro-intestinal tract. Small and smooth objects will invariably pass through without any difficulty unless they get impacted at one of the narrow points.[10-12] In the oesophagus these are at the pharyngo-oesophageal junction and at areas of compression at the bifurcation of trachea, aortic arch, and the oesophagogastric junction. Other narrow points are in the stomach at the pylorus(especially in children who have had pyloromyotomy for congenital hypertrophic pyloric stenosis)the duodeno-jejunal junction at the site of Treitz,s ligament; the ileocoecal valve; areas of peritoneal reflection in the pelvis and narrowing produced by previous surgery on the gastro-intestinal tract.[1,2] Relatively sharp and long objects, more than 5-7.5 cm in length, may cause concern during their passage because these may be unable to negotiate the curve of the second & third part of the duodenum. We were concerned for this reason about our first patient as a nail swallowed was 5 cm long with one sharp end. The nail swallowed by our second patient was about the same length but luckily both its ends were smooth. However, the patient was much smaller in age and size than the first patient. It is generally believed that once a foreign body passes through the oesophagogastric junction it is expected to pass through the rest of the gastro-intestinal tract. However, it may remain in the stomach indefinitely or pass along after several weeks.[1] Transit time has been reported to vary from 3 days and 3 weeks, up to 6 weeks[7] .In our first patient, the nail passed out in 50h while it took 5days (120h) in the second patient. The diagnosis is generally made from the history and radiological investigations. Radiolucent foreign bodies may remain undetected unless they produce complications that call for further investigations. Spitz & Horsig10 have reported the case of a 2-year-old girl who swallowed a radiolucent foreign body which remained in the oesophagus producing ulceration and stricture formation until it was discovered 6 years later. It required major surgical intervention to remove this foreign body and restore the continuity of the oesophagus. Multiple foreign bodies in the stomach can be palpated only rarely

in a person with a thin abdominal wall. In both our patients, there were no physical signs. In most instances it is better to employ conservative methods of treatment as the majority or foreign bodies pass spontaneously as has been reported by Clerf.[13]

The patient must be kept under observation and even hospitalized if the foreign body is sharp and unusually large. The progress of radio-opaque foreign bodies should be monitored by X-ray examination at regular intervals. Endoscopic removal of foreign bodies from the oesophagus and stomach can be carried out with ease and safety. Magnets have been used for successfully retrieving metallic foreign bodies.[15,16] A Fogarty cathter has been used with success in extracting blunt oesophageal foreign bodies in children.[17,18] Medical regimens using papain or glucagon have been used for digesting a bolus of meat stuck in the oesophagus.[19] Holsinger et al.20 have reported a patient who suffered the impaction of a meal and subsequently ingestion of papain caused perforation of an ulcer in the oesophagus. Prolonged retention of foreign bodies in the stomach has been reported by Mandell et al.[2] A waiting period ranging from 10 days to 3-4 weeks has been recommended by various workers.[1, 21] During this period, repeated plain X-ray examinations of the abdomen should be carried out and it should be followed by an upper gastro-intestinal examination with barium if there is no evidence of perforation.[21] Surgical intervention is recommended by Debakey et al.[1] where (1) failure of progress or evidence of impaction at a particular site is demonstrated by repeated X-ray examinations;[2] there are signs of obstruction or impending or actual perforation;[3] the foreign body is very long or large, sharp pointed or jagged;[4] there is a large number of foreign bodies; and [5] where there is excessive gastro-intestinal haemorrhage.

Immediately befor laparotomy, anX-ray of the abdomen should be done confirm the position of the foreign body. In addition to removal of the foreign body in the presence of such complications like perforation, peritonitis, abscess formation etc., appropriate treatment to control infection should be instituted. Complications can occur much later after swallowing the foreign body. Ani and Itayemi6 have reported a 23-year- old man who had swallowed a 10 cm long sharp nail and 1 year later presented with signs and symptoms of perforation, peritonitis and abscess formation of 3 weeks duration. The nail was found lying in the retroperitoneal space in the abscess cavity. Various methods of removing different foreign bodies from within the gastro-intestinal tract, without or with least contamination of the peritoneal cavity have been described.[1,2,4,17]

Conclusion

A swallowed foreign body, large or small, should be treated with respect and not ignored. Its passage in the gastro-intestinal tract should be carefully watched and appropriate treatment instituted for its removal. The patient should be kept under regular and constant observation until such time as the foreign body has either expelled itself or is removed.

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