ACCIDENTAL INGESTION OF A DRAWING PIN A CASE OF AN UNUSUAL FOREIGN BODY IN THE OESOPHAGUS

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INTRODUCTION

Foreign body impaction in the oesophagus is a quite common occurrence [1] but 90% of such foreign bodies pass through the digestive tract to be eliminated in stools. The incidence of complications following ingestion of foreign bodies is surprisingly low. It was 10% in a study of 2400 cases by Nanchi and Ong [2].

Presented below is a case of a young boy who accidentally swallowed a drawing pin and in whom plain radiographs confirmed the presence and location of the foreign body. Endoscopic removal was successful.

CASE REPORT

S.S. is a 12 year old male primary five pupil who was admitted into the Accident and Emergency unit of the University College Hospital, Ibadan with a history of an accidental swallowing of a drawing pin while attempting to paste a calendar on the wall, three hours earlier. He complained of pain and there was no associated stridor, cough or change in voice. All other systems were essentially normal. An assessment of a foreign body in the hypopharynx was made.

Anteroposterior (A-P) soft tissue radiograph of the neck showed the radioopaque drawing pin end-on, with the rounded blunt end seen overlying the 6th cervical(C6) vertebral body in the midline (Fig 1). The lateral view showed the pin in the prevertebral soft tissue space anterior to C6 vertebra with the sharp end pointing anteriorly and just touching the posterior limit of the trachea (Fig 2), suggesting its location within the oesophagus. At oesophagoscopy, the drawing pin was found to be impacted at about 5cm from the upper incisor and it was successfully removed.

DISCUSSION

The oesophagus is a very elastic organ, thus, swallowed objects rarely get trapped. The risk of impaction is greatest in children less than five years and in adults over 50 years of age[1]. This patient was 12 years old .In children, coins and toys get impacted in 74% of cases while in adults, large food pieces are implicated in 86% of cases. Mentally- retarded patients, prisoners, drug addicts, edentulous patients and those who wear dentures are especially at higher risk. Ingestion of unusual objects as in this patient has been reported and includes swords, wire cloth hangers, closed and open safety pins, magnets, plastic materials, jewellery rings and heavy electrical wires [3-10]. The drawing pin is not commonly swallowed except in accidental cases as in this case, since individuals are usually wary of putting sharp objects into the mouth.

Foreign bodies are usually trapped at points of physiological narrowing namely the pharyngoesophageal junction, aortic arch level and diaphragmatic hiatal level [1]. Impaction at other sites should raise the suspicion of a preexisting pathological stricture.

Following removal of impacted foreign bodies, the oesophageal mucosa is intact in 50% of patients; 33% show minor mucosal tears; 5-6% show deep tears and 5-6% are perforated. The site of perforation usually corresponds to the site of impaction and this is mostly at the cricopharyngeal junction in children and at the lower oesophagus in adults[11].

The diagnosis of foreign body ingestion is usually made based on clinical findings followed by radiological examination which confirms the location of the foreign body. If it is radio opaque, the lateral and anteroposterior radiographs of the neck are

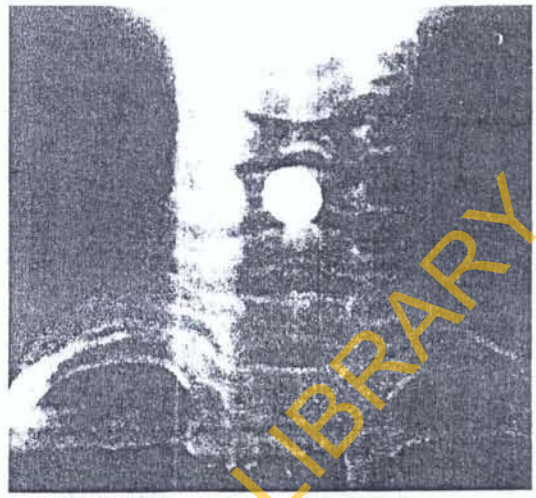
invaluable. In addition, the lateral radiograph may also show signs of perioesophagitis (thickening of the oesophagus) and perforation seen as air bubbles in the prevertebral region, the so-called Minnegerodes' sign[1]. Subcutaneous or mediastinal emphysema, pneumothorax, mediastinitis and deep neck abscesses are also known complications[1]. The risk of perforation and emphysema was high in this patient as the sharp end impinged on the tracheal wall.

Fatal complications such as perforations of the aortic wall and common carotid artery by sharp or jagged foreign bodies have also been documented[2,17]. Computed Tomographic (CT) scan may reveal the diagnosis when it is otherwise not apparent [15] and CT is also more sensitive in identifying associated complications. Non metallic objects are not readily visible on x-rays and there is no consensus on the use of contrast medium in such cases because it reduces the efficacy of endoscopy. Water soluble contrast agents are, however, regarded as safe even in cases with perforation[1].

Oesophagoscopy must be carried out in the diagnostic phase and in many cases, it is also the therapeutic modality. If endoscopic removal fails, open surgery is then indicated. Following the removal of the foreign body and regardless of the method used, oesophagoscopy should be repeated to inspect the oesophageal wall and mucosa.

There is the need to enlighten the public, especially children on the risks associated with putting objects which could be accidentally swallowed in the mouth, because of possible and sometimes fatal complications.

Fig 1: Anteroposterior radiograph of the neck showing the radioopaque foreign body superimposed on the 6th cervical vertebra (C6).



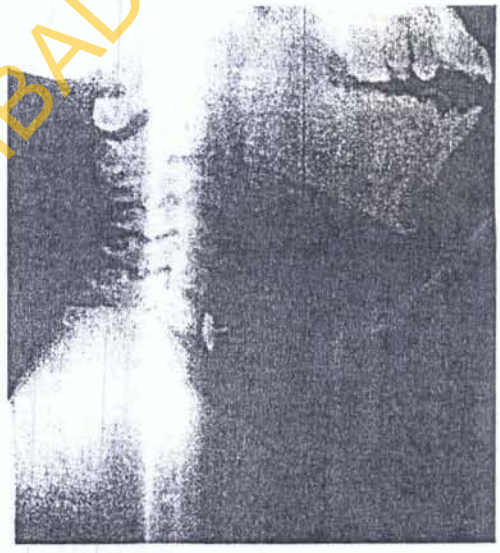


Fig 2: Lateral view of the neck. The drawing pin is in the prevertebral space anterior to C6 with the sharp end pointing anteriorly, just touching the posterior limit of the trachea.

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