Marble in Oesophagus of Neonate: A Unique and Unprecedented Case Report

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Abstract: One of the most serious causes of morbidity and mortality in children below 5 years of age are swallowed and inhaled foreign bodies. Children of age 5month – 8years are at vary high risk of foreign body ingestion. Ingestion of foreign body in neonatal period is although rare. We here by describe a 21-day-old neonate who had a large sized spherical glass marble impacted in the cervical oesophagus for a long period. The foreign body was successfully removed by rigid oesophagoscopy. The case is discussed as it was first large sized spherical glass marble to be impacted and removed from cervical oesophagus of a neonate which has not been earlier reported in world English literature.

Keywords: FB, foreign body.

1. INTRODUCTION

Ingestion of foreign bodies although a common identity in paediatric population, it's rare in neonates [1-4]. Most of the cases are accidental, and a form of neglect by the parents. Foreign body in female child may be a result of child abuse or homicidal attempt in third world countries [5]. All sorts of Foreign bodies with both oesophageal and airway problems have been described. Upper third of oesophagus is usually site of impaction of these retained foreign bodies in around 80% of cases. The wall of oesophagus at the site of foreign body may become inflamed, edematous and injured immediately or by pressure necrosis leading to mediastinitis [9, 10]. Impacted oesophageal foreign bodies may result in respiratory complications either by physical compression over the airway or by erosion into the trachea [8, 11].

Rigid or flexible oesophagoscopy, Foley's catheter, Balloon tipped angiographic catheter are some of the modalities which have been described for removal of these foreign bodies.

We here by present a rare case of a large-sized spherical glass marble impacted in the cervical oesophagus for a long period in a 21-day-old neonate. To date spherical glass marble in a neonate has not been described.

2. CASE REPORT

A female baby was referred to the cardiothoracic emergency unit with history of accidental ingestion of foreign body in the mouth, which probably was inserted by one of the elder siblings while playing when she was of 21 days of age. Following this, the baby started having complaints of intolerance to feeds and excessive drooling of saliva and episodes of respiratory distress cyanotic spells. The baby was brought to emergency department thirteen days after the incident. Before reporting to our unit she had consulted various practitioners with several failed attempt for removal in various medical centers.

On examination, the neonate was having difficulty in breathing with mild stridor. Cervical X-ray revealed a large spherical radio-opaque shadow in the neck (Figure **1** and **2**).

Rigid esophagoscopy under general anaesthesia was carried out and a large glass marble was removed from the cervical oesophagus that was impacted (Figure **3** and **4**).

The child recovered well after the procedure, and was discharged on full oral feeds. She has been doing well after one month of follow-up.

3. DISCUSSION

One of the most serious causes of morbidity and mortality in children below 5 years of age are swallowed and inhaled foreign bodies; children of age 5 month–8 years are at the highest risk of foreign body ingestion [6]. In neonates incidence of oesophageal foreign bodies is rare [1-4] Coins are the most common FB ingested especially by young children [7], 80-90% of foreign bodies that come to medical attention pass through the gastrointestinal tract without any difficulty

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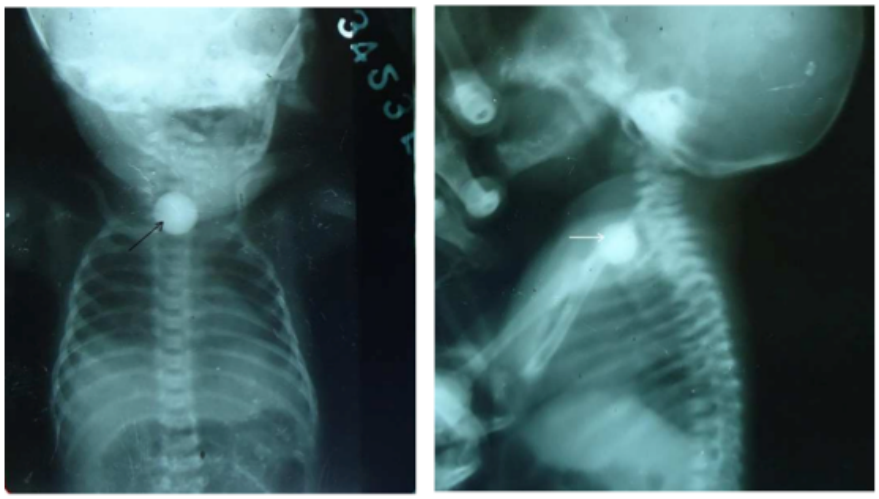

Figure 1 and 2: X-ray cervical spine including chest (AP and lateral) showing spherical radio opaque spherical object in upper oesophagus. Arrow points towards the foreign body.

Figure 3: Marble measuring 1.75x1.75 cm spherical nature of the foreign body posed a large difficulty in catching and withdrawing.

Figure 4: Clinical photograph immediately after retrieval of marble (seen in inset).

however 10-20% are retained [8]. About 80% of retained foreign bodies are lodged in upper third of oesophagus. Cardia is second most common site of impaction [9, 10] and these require endoscopic or

surgical removal [8]. The effects of foreign body in oesophagus vary according to size shape and physical character. It may lead to partial complete or no obstruction. The wall of oesophagus at the site of foreign body may become inflamed, edematous, or injured immediately or by pressure necrosis leading to mediastinitis [9, 10]. Final outcome is respiratory complications either by physical compression over the airway or by erosion into the trachea [8, 11]. In our case, it leads to difficult intubation probably because of anterior displacement or physical compression over the airway.

Diagnosis of such situations is usually not difficult as a family member commonly provides a leading history of such an event. But if the incident has not been witnessed and the ingested object is radiolucent, the diagnosis of foreign body ingestion can be very tricky particularly in neonates. Because respiratory distress is the most common manifestation of a foreign body in oesophagus in younger children, it may lead to a misdiagnosis of some respiratory disorder [12, 13]. Radio-opaque FB such as coins and stones are visible on plain X-rays. Barium esophagography is recommended for radiolucent foreign body [14]. The combined sensitivity and specificity of x-ray and contrast study is 99% and 80% respectively [15]. Rigid or flexible oesophagoscopy are the methods of choice for removing swallowed foreign bodies is [9, 10, 16]. Use of Foley's catheter balloon tipped angiographic catheter has been described for removal of spherical foreign bodies [17, 18]. Rigid oesophagoscopy has got definite advantage over the flexible oesophagoscopy as it has a direct vision and wider working lumen for utilizing better grasping instruments however it requires more experience and skill to remove such large foreign bodies which had been impacted for several days. Repeated failed attempts at removal, as was done in our case may also lead to difficulty in removing such foreign bodies even by skilled endoscopists.

The literature presents very few cases of FB oesophagus in neonates, namely an impacted ornament ring in a 3-day-old, [1], stones [5, 19], bean [20], button [12] and a thumb tack [21]. Although described in children [17], to date spherical glass marble in a neonate has not been described. Being spherical smooth and slippery it is difficult to grasp and remove hence pose more difficulty. The removal is better accomplished with rigid oesophagoscopy. This case is unique and unprecedented as the neonate presented with severe respiratory distress because of compression of trachea by marble, though impacted in esophagus.

Important message to be delivered by this case report is that oesophageal foreign body can be cause of respiratory distress and gastrointestinal obstruction in neonatal period also. Since lonely neonates lying along with such foreign bodies can lead to such catastrophe. Authors recommend not leaving baby alone with younger siblings. An early medical visit is necessary when such symptoms appear in newborn that was otherwise healthy. Such neonates must be better transferred to specialist center instead of relying on local expertise in order to prevent complication.

CONCLUSION

Ingested Foreign Body (FB) although rare can be a cause of respiratory distress and oesophageal obstruction in neonatal period. Rigid Oesophagoscopy is a useful mean to remove impacted oesophageal FB.

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