MIGRATING FOREIGN BODY BRONCHUS

K.C. A
Sinha B K
Guragain R

Ganesh Man Singh Memorial Academy of ENT and Head & Neck Studies, Institute of Medicine (IOM), Maharajgunj, Kathmandu, Nepal.

Correspondence to:
Dr. Arun KC
Department of ENT-HNS
Ganesh Man Singh Bhawan,
TU Teaching Hospital
Institute of Medicine,Kathmandu,
Nepal.
e-mail:arunhatric@hotmail.com

A case of foreign body bronchus in a 11 month child came to emergency department with history of ingestion of red bean 4 days back. He underwent rigid bronchoscopy and foreign body was seen in the right main bronchus.The foreign body couldn't be removed and the child underwent right thoracotomy and bronchotomy with failure to locate the foreign body. Finally foreign body (red bean) was removed with the help of dormia basket from left main bronchus.

Keywords: foreign body, bronchoscopy, thoracotomy.

INTRODUCTION:

Foreign body (FB) aspiration is common in children and is not an uncommon cause of accidental death in paediatric age group. It is a serious medical condition demanding timely recognition and prompt action. Rigid bronchoscopy and foreign body removal is a commonly done emergency procedure. Any delay in the diagnosis and treatment is associated with serious complications. Few foreign bodies have tendency to migrate which as in our case added further difficulties in the management. Early and a thorough bronchoscopic examination should be performed to rule out migration or bilateral FB.[1] Dormia basket can be used as an alternative method to extract FB from the bronchus.

CASE REPORT:

A 11 month old male child was brought to emergency department with history of ingestion of red bean 4 days ago followed by cough, choking and difficulty breathing. On examination the air entry on right side was decreased with normal air entry on left side. Chest X-ray was normal. The child underwent rigid bronchoscopy and the foreign body (Red Bean) was visualised in the right main bronchus. However FB couldn't be removed due to the lack of forcep having telescope and anaesthetic difficulties. Hence the procedure was abandoned. CT scan chest was perforemd which showed collapsed right lower lobe. After three days of first intervention child underwent right thoracotomy and right main bronchotomy. There was granulations present in the right main bronchus but FB couldn't be seen. The procedure was again abandoned for the second time. Since the child was unable to maintain oxygen saturation, he was kept in ICU with ventilator support. Post operative chest X-ray showed atelectatic left lung (Fig. 1). The condition of the child was deteriorating and underwent cardiopulmonary resusitation thrice. Hypokalemia was persistent despite intravenous supplementation. Finally it was decided to do repeat rigid bronchoscopy after five days. The patient underwent rigid bronchoscopy and FB was detected in left main bronchus which was removed with the help of dormia basket (Fig. 2). The child was shifted to ICU and stayed there for 1 week and later transferred to paediatric ward and subequently discharged after five days.

DISCUSSION:

Aspiration of FB is commonly reported, but migration of aspirated FB in airway is uncommonly cited in literature. Singal et al reported about a patient with a left post-obstructive pneumonia from a FB based on radiographic findings. During bronchoscopy, however, the FB (atooth crown) was found in the right main bronchus. The FB had migrated from left to right bronchus.[2] Wu and Wang reported a similar case like ours where a FB, a peanut was aspirated and chest radiograph revealed right lung collapse. The patient then had several episodes of coughing while waiting for bronchoscopy.Surprisingly, bronchoscopy revealed the peanut to be in the left main bronchus.[3]

Fig. 1: Chest X-ray showing atelectasis of left lung

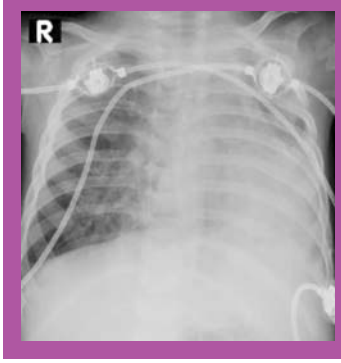

Fig. 2: Red bean extracted with help of dormia basket

The mechanism of migration of the FB may be due to the high expiratory flow generated during coughing. This initial peak of expiratory flow lasts about 30 to 50 milliseconds and may reach flow rates as great as 12 L/s.[4] This expiratory flow may be sufficient enough to expel the FB or displace it out so that it could migrate into the opposite lung. Shape and chemical nature of the foreign object also play a role in the migration of FB.[5] Irregularly shaped and sharp pointed objects are less likely to migrate since they easily stick to the mucosa. Inorganic FBs are usually inert and evoke less inflammatory response even if they migrate. Organic FBs can cause severe inflammatory response and with fluid absorption, they can increase in size and result in possible airway obstruction. In addition, organic FBs as in our case have tendency to migrate.[6] Possibility of migration of FB should always be kept in mind and dormia basket is a safe alternative to coventional method.[7]

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