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A rare case of stomach perforation inside the thoracic cavity due to a congenital diaphragmatic hernia in an adult

R.K.M.D.C.D. Ranaweera[1], S.M.K. Gamage[2*], E.M.D.B. Edirisinghe[1], W.M.A.K.O. Wasala[1] and E.A.D. Udayakumara[1]

[1]Surgical Unit A, Teaching Hospital, Kurunegala, Sri Lanka, [2]Department of Anatomy, Faculty of Medicine, University of Peradeniya, Sri Lanka
[*]smkgamage@yahoo.com

Congenital diaphragmatic hernia (CDH) is a defect that occurs due to abnormal development of the diaphragm, with herniation of the abdominal contents into the chest. We present an extremely rare case of perforation of stomach which has herniated through the diaphragm in an adult, causing pleural effusion and an empyema thorax.

A 40 year old male presented with a three day history of left side chest pain and dyspeptic symptoms. His heart rate was 124 beats per minute, blood pressure was 110/70 mmHg and the respiratory rate was 28 breaths per minute. Air entry was low on the left side. The abdomen was tense but not tender. Urine output was less than 1ml/Kg/hr. A chest X-ray revealed a left side hydro-pneumothorax and so a tube thoracostomy was performed. Following the procedure the patient had intestinal contents draining through the tube. Urgent non-contrast computerized tomography (NCCT) of the thorax was performed. It revealed intestinal contents inside the left hemithorax with pleural effusion. The left lung has collapsed due to a massive pneumothorax with mediastinal shift. An urgent left thoracotomy was performed. The stomach, part of the omentum and spleen were herniated through postero-lateral (foramen of Bochdalek's) diaphragmatic defect. A perforation of 1.5 cm was found on the anterior surface of the stomach with gross contamination of the left hemithorax. The lower lobe of the left lung has collapsed. The pleural cavity was washed thoroughly. Perforation was repaired with 2/0 PGA interrupted suturing. A midline laparotomy was performed on lateral position. A congenital defect of the diaphragm was identified and repaired with 2 Nylon interrupted. A thoracotomy was closed with chest drain in situ. The peritoneal cavity was washed and closed over a drain in supine position. A post-operative chest X-ray revealed fully expanded left lung with the left hemi diaphragm located in the normal position. He developed empyema of the thorax and had full thickness burst of the upper abdomen which was managed accordingly. The patient recovered and was discharged from the ward after 14 days of hospital stay.

Although congenital diaphragmatic herniae are seen among children, presentation in adults is rare. Perforation of viscera in such a case is even a rare occurrence where a high degree of suspicion is required to identify and manage the condition. Standard thoracotomy with laparotomy on lateral position gives optimum exposure for surgery for such cases.