Fig. 1. Stricture in the terminal part of duodenum with tubercles (marked with two arrows) and a perforated ulcer. (marked with one arrow) and dueodenum marked with black single arrow.

structures, intact mucosa, rapid passage of ingested organisms and acidity of the stomach.

The possible routes of infection are directly through mucosa, hematogenous, lymphatic and from adjacent structures in continuity(2) through serosa. Extensive lymphadenopathy is common. The above two reasons make our case more rare.

The treatment of gastric and duodenal tuberculosis is primarily medical with anti-tuberculosis drugs(3). Surgery is indicated in cases with obstruction or perforation of an ulcer.

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Esophageal Perforation in Neonate

Perforation of the esophagus or pharynx of a neonate is an uncommon emergency. It may be misdiagnosed as a case of tracheo-esophageal fistula due to overlapping clinical features.

A female neonate delivered by normal vaginal delivery, with a birth weight of 2500 gm, underwent oral suctioning soon after delivery to clear secretions. Shortly thereafter, excessive salivation was noted and an attempt to pass an orogastric tube failed.

X-ray of chest demonstrated coiling of tube in the neck. The child was referred with a diagnosis of esophageal atresia with tracheo-esophageal fistula. At admission the child had tachycardia and dyspnea. Attempt at gently passing an 8 Fr. orogastric tube failed and a repeat radiograph revealed the coiled tube in the neck. There was right upper lobe consolidation but no evidence of pneumo-thorax or pneumomediastinum. Preoperative bronchoscopy could not be performed due to lack of facility. At surgery, esophagus was found to be normal without any communi-cation between the trachea and esophagus.

Orogastric tube was seen to come into right thoracic cavity from the apex. Exploration of the cervical esophagus revealed a 5 mm long vertical perforation. The tube was manipulated into the esophagus and perforation was closed. Postoperative recovery was uneventful. Contrast study done two weeks later demonstrated normal esophagus without any stenosis. The child is well during an eight months followup.

Esophageal perforation is unusual in neonates. Traumatic esophageal perforation and/or formation of esophageal diverticulum may occur due to naso-gastric intubation, suction catheter, direct trauma due to probing finger tip or attempts at laryngoscopy(1,2). The perforation usually occurs at the pharyngo-esophageal junction. Low birth weight, prematurity, extension of neck during instrumentation and compression of esophagus by cervical vertebrae predispose to injury. Cricopharyngeal spasm caused by the perforation gives rise to symptoms suggestive of esophageal atresia.

History of polyhydramnios, repeated attempts at intubation, vigorous suctioning and blood on thc tip of cathctcr can help to differentiate between esophageal atresia and perforation(3). Deviation of nasogastric tube from the normal course, pneumomediastinum, pneumothorax, air fluid level and subcutaneous emphysema on radiography suggest perforation(4). The diagnosis needs to be confirmed with contrast study with water soluble contrast. It may demonstrate a retropharyngeal pocket (pseudodiverticulum), submucosal perforation or free intrapleural perforation(5).

Treatment of high esophageal perforations warrants conservative management with observation, systemic antibiotics and nutrition either parenterally or by gastrostomy. Chest tube may be placed if pleural cavity has been entered.

Esophageal perforation is associated with high mortality and should be prevented. Intubations should be performed by experienced physicians in a gentle manner using compliant tubes and avoiding force, protruding stylets and blind intubations. Early recognition, prompt medical therapy and observation for potential surgical complication reduce stress and improve prognosis.

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