Case Letters

An unusual case of gastroleural fistula: Management dilemmas

Sir,

Gastroleural fistulas are a rare but morbid cause of hydropneumothorax. The etiology varies from traumatic or iatrogenic injury to perforation in a herniated stomach due to ischemia, ulceration, or malignancy. The treatment of this condition is fraught with decision-making dilemmas since the management strategy of the primary etiology (damage control/curative) has to be weighed against the risk of profound infection and sepsis and other comorbidities of the patient.

A 55-year-old female presented to the emergency room with acute onset dyspnea. X-ray of the chest showed left-sided pneumothorax and intercostal drainage (ICD) was inserted. Her ICD was removed 1 week later as there was resolution of symptoms along with clinical and radiological evidence of expanded lung. However, 2 days later, she again developed breathlessness. Chest X-ray revealed hydropneumothorax. ICD was reinserted which drained food particles along with pus. A presumptive diagnosis of gastroleural fistula was made, and immediate surgical repair was planned. Computed tomogram (CT) chest with contrast revealed a rent in the left hemidiaphragm through which the perforated gastric fundus was herniating.

An exploratory left posterolateral thoracotomy was done. There was residual collection causing collapse of the left lower lobe of the lung. The left hemidiaphragm showed a rent through which the thickened edematous perforated gastric fundus herniated along with two large lymph node masses [Figure 1]. The initial suspicion was of an ulcer perforation due to malignancy or acid peptic disease. The option of gastrectomy was considered, but it was fraught with risk of developing overwhelming sepsis. Considering the lack of tissue diagnosis and the presence of an infected field and poor general condition of the patient, we planned for damage control surgery. The residual collection was drained. The gastric fundus was dissected off from the left hemidiaphragm after enlarging the rent [Figure 2]. The perforated stomach was closed with two firings of 100 cm linear cutting stapler. The herniated part along with the lymph node masses was excised and was sent for histopathological examination. A thorough wash of both chest and abdominal cavity was done. The stomach was returned to the abdominal cavity, and the diaphragm was repaired with continuous prolene sutures reinforced with interrupted prolene sutures. The placement of a mesh was purposefully avoided in the infected field. The collapsed left lung expanded fully after decortication.

The patient made an uneventful recovery. The histopathology report came as mucosa-associated lymphoid tissue lymphoma and the patient underwent chemotherapy. She is doing well at 1 year follow-up.

Gastroleural fistula is a rare cause of hydropneumothorax and should be kept in mind if there is persistent ICD, especially of gastric contents. They are commonly traumatic,[1] with perforation occurring in a herniated stomach through a rent in the diaphragm; they can also occur following gastric bypass operations, following forceful intercostal drain insertion due to intrathoracic perforation of strangulated hiatal hernia and rarely due to malignancy. Careful attention to the X-ray in cases of hydropneumothorax for the presence of diaphragmatic hernia and CT evaluation to confirm suspicion is essential to prevent a potentially lethal complication. In our case,

![Figure 1: (a) Left posterolateral thoracotomy showing a conglomerate mass (yellow arrows) herniating through a rent in the diaphragm into the left hemithorax. (b) Left lower lobe dissected off from the mass. The perforated stomach (black arrow) visible](image)

![Figure 2: (a) The perforated fundus (arrow) dissected off from diaphragm after enlarging the rent in diaphragm; (b) The excised tissue after application of stapler](image)
we were faced with a massive extravasation of gastric contents into the pleural cavity, with a relatively spared peritoneal cavity. An extended resection of the stomach at this juncture would have meant high risk of infection, anastomotic site leak, poor wound healing, and sepsis, translating into high morbidity and mortality. On the other hand, the mass appeared to be a conglomerate one with lymph nodes with high likelihood of malignancy. The tumors arising from the stomach are adenocarcinomas and lymphomas, with likelihood of erosion much higher in adenocarcinomas. Adenocarcinomas with such a presentation would be mostly end-stage disease with metastasis. A viable option in our case would have been a frozen section of the mass and further decision made based on the diagnosis. As this facility was not available in our institution, we weighed the risks and benefits and decided to come out with a salvage surgery, which ultimately proved an acceptable decision in this patient as her tumor was chemotherapy-sensitive lymphoma.

The prognosis of gastropleural fistulas depends on the etiology of the fistula, early diagnosis, and prompt management. The mortality and morbidity is due to the extravasation of corrosive gastric contents exuding into the pleural and peritoneal cavities and the nutritional deficit occurring due to the perforation. Less than 10 cases of primary gastric lymphoma presenting as gastropleural fistulas have been described in literature.[2,3] Survival depends on the histological type of lymphoma, stage of the disease, associated comorbidities of the patient, and the presence of sepsis. Although a radical surgery may be preferable for suspected malignancy, this has to be weighed carefully against the risk of sepsis and the morbidity associated with a prolonged procedure in a sick patient. A damage control surgery maybe a reasonable alternative in a very sick patient, with more extensive resection reserved for later when the fistula has healed, and risk of infection has been mitigated.

Declaration of patient consent
The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest
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Joseph Thomas Kathayanatt, Shaji Palangadan, Ratish Radhakrishnan, Jayakumar Thanath
Department of Cardiothoracic Surgery, Government Medical College, Kottayam, Kerala, India.
E-mail: shajipalangadan@gmail.com

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