Giant hiatal hernia: beware of the supine ICU chest X-ray!

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DESCRIPTION

An 85-year old woman with a medical history of mild hiatal hernia was admitted to the medical intensive care unit for respiratory distress associated with hypoxaemia and hypercapnia. A diagnosis of cardiogenic oedema was suspected. The situation slightly improved after high-dose diuretics and non-invasive ventilation. The anteroposterior supine chest X-ray revealed a right thoracic opacity. The patient was transferred to the pulmonology unit. A classical erected posteroanterior chest X-ray revealed a large air-fluid level in the right hemithorax (figure 1). An hydropneumothorax or a lung abscess was suspected. A chest CT scan revealed a giant hiatal hernia containing the stomach, the first duodenum, the spleen, the caudal part of the pancreas and the left colic flexure, all elevated in the right hemithorax (figure 2A–C; video 1). A laparoscopic surgical procedure was performed which involved the excision of the hernia sac, a suture repair of crural pillars, with oesophagogastropexy and an antireflux valve creation (figure 2D–F).

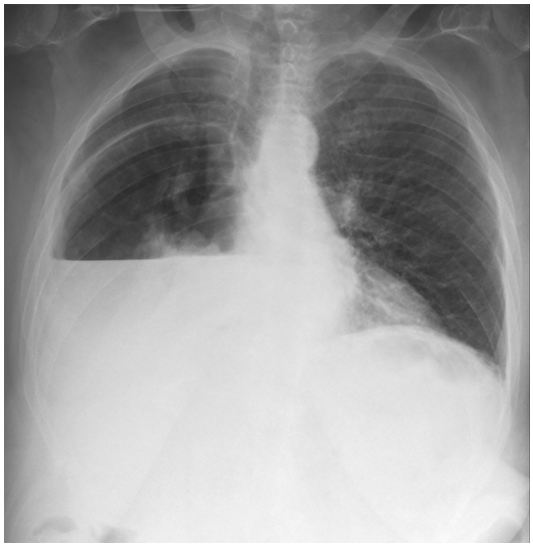

Figure 1 Posteroanterior chest X-ray showing large right chest opacity with air-fluid level on the right part of the thorax. The right hemidiaphragm is not visible.

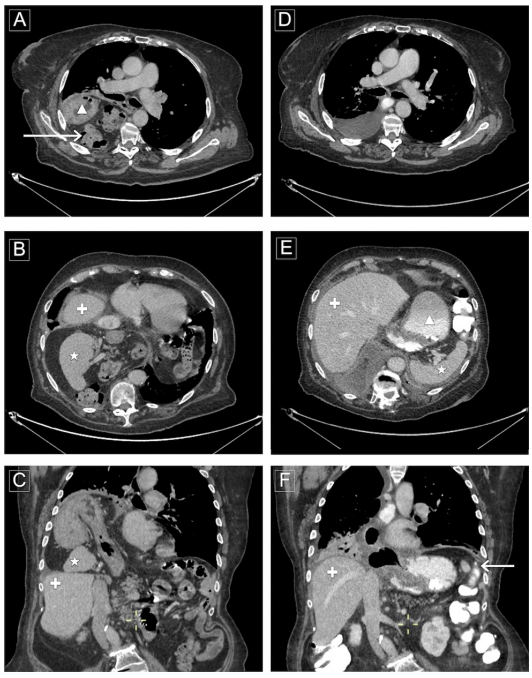

Figure 2 CT scan before (**A,B,C**) and after (**D,E,F**) surgery. The stomach (A,E, triangle), left colonic flexure (A,F, arrow) and spleen (C,E, star) are visible in the hernia sac and in their right position after surgery; the liver is marked by a cross (B,C,D,E). Postoperative CT images show moderate postoperative pleural effusion (D) and significant diminution of hiatal hernia (F).

The postoperative period was uneventful and the patient was discharged on postoperative day 13. Comparison of the preoperative and postoperative work-up showed a great improvement in dyspnea (Modified Medical Research Council (mMRC) Dyspnea Scale 2 vs mMRC 4 before surgery), room air oxygen saturation (SpO_2=97% vs 90%) and lung function (forced vital capacity=107% predicted vs 48% predicted). Huge hiatal hernia is particularly observed in elderly, and may cause dyspnoea[1] and cardiac failure due to heart compression.[2] Surgical repair is usually associated with a significant improvement of both symptoms and in pulmonary function tests.[3]

Learning points

- Beware of anteroposterior supine chest X-ray.
- Think of hiatal hernia for all hydro-aeric opacity in the thorax, even on the right side.
- Giant hiatal hernia surgery can improve dyspnoea.

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