

A cause of mediastinal widening

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CASE SUMMARY

A 35-year-old female presented to the outpatient department complaining chest pain for past 1 month, which was central, without any aggravating or relieving factors, was mild in intensity, and had no radiation or referral. There were no other associated respiratory symptoms, but she complained of retrosternal burning for several months without any significant association with food. There was no history of trauma recent or remote. Both general as well as respiratory examination was within normal limits. A baseline chest radiograph (CXR) is shown which was suggestive of mediastinal widening [Figure 1]. In view of chest pain and abnormal radiology, a computed tomography (CT) of the thorax was done which revealed opacity with air-fluid level [Figures 2-4].

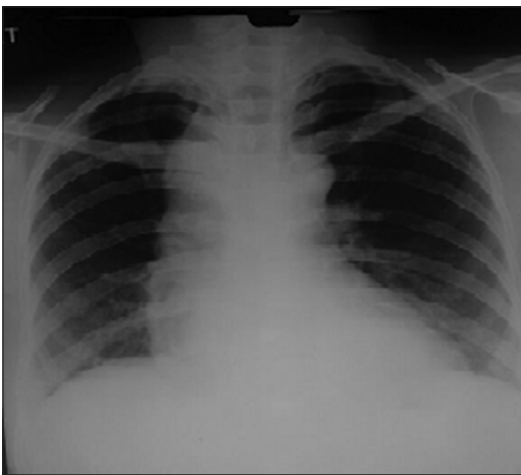


Figure 1: Mediastinal widening and absence of gastric bubble

QUESTIONS

- Q1. What does the CXR show?
- Q2. What abnormality is visible on CT thorax?

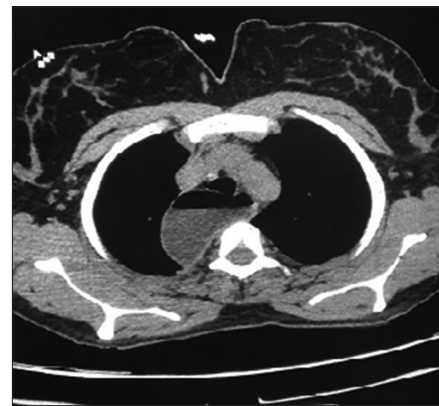


Figure 2: Mediastinal opacity with air-fluid level

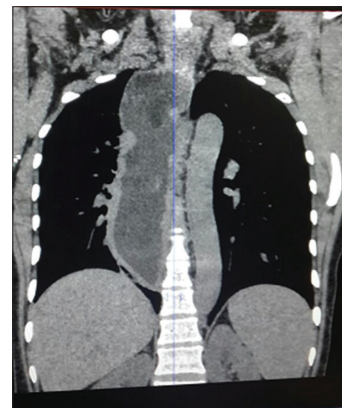


Figure 3: Mediastinal opacity on computed tomography

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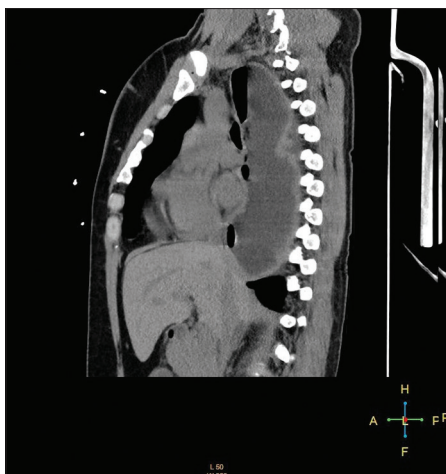


Figure 4: Lateral sections

ANSWERS

Figure 1 shows mediastinal widening and absence of gastric bubble.

Figures 2-4 shows posterior mediastinal opacity with air-fluid level suggestive of achalasia cardia.

DISCUSSION

Mediastinal widening on CXR is defined as width of more than 8 cm on posteroanterior view. It can be commonly due to lymph node enlargement, vascular causes, neoplasia, and rarely due to gastrointestinal causes such as achalasia or hernia. Achalasia refers to failure of organized esophageal peristalsis with impaired relaxation of the lower esophageal sphincter (LES) resulting in marked dilatation of esophagus. It causes functional obstruction of the esophagus and occurs due to loss of inhibitory ganglion in the myenteric plexus of the esophagus.^[1] It can be primary or idiopathic and secondary, for example, Chagas disease which is one of the infective causes among its multifactorial etiologies. Other causes that have been proposed are hereditary and autoimmune. Pseudoachalasia can also occur due to malignancy. The most common presenting symptoms of achalasia are dysphagia, regurgitation, chest pain, and weight loss. Due to similarity of symptoms, it is often mistaken for gastroesophageal reflux disease, hiatus hernia, or psychosomatic disorders^[2] leading to a delayed or erroneous diagnosis. In this patient also, there were symptoms suggestive of gastroesophageal reflux disease.

Radiological findings in a plain CXR that are suggestive of achalasia are widening of mediastinum and absence

of gastric air bubble due to failure of relaxation of LES though various uncommon presentations have also been reported.^[3,4] Both these findings can be seen in Figure 1. CT findings include dilated esophagus with air-fluid level or food debris. CT scan in the above patient demonstrated dilated esophagus with air-fluid level. Diagnosis can be confirmed by barium swallow or esophageal manometry. On barium swallow, a bird's beak or rat tail appearance is classically seen. In addition, endoscopy of the gastrointestinal tract is routinely performed to rule out associated carcinoma and may even confirm the diagnosis. In this case, endoscopy demonstrated hugely dilated esophagus with lots of food residue and resistance to passage of endoscope at gastroesophageal junction. No growth or mass lesion was seen in esophagus or gastric fundus.

Management of achalasia primarily in advanced cases is by pneumatic dilatation or surgical, for example, Heller myotomy. Medical management includes drugs to relax the LES, for example, calcium channel blockers and nitrates and endoscopic injection of botulinum toxin into LES. Aspiration pneumonia and dyspnea due to pressure of grossly dilated esophagus over trachea are the possible respiratory complications associated with this condition. Patient in this case opted for medical management.

Gastroesophageal causes should be included in differentials of mediastinal widening. The absence of gastric bubble along with mediastinal widening is suggestive of achalasia cardia. To conclude, not only achalasia is one of the causes of mediastinal widening but also it is very often misdiagnosed due to its nonspecific presentation both symptomatically and radiologically.

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Conflicts of interest

There are no conflicts of interest.

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