Dextrogastria with eventration of the right hemidiaphragm: A misleading chest radiograph
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Introduction

Situs anomalies are rare and complex. Total situs inversus refers to a condition, in which there is a mirror image transposition of both the abdominal and thoracic viscera. Partial situs inversus also known as situs ambiguous or heterotaxy syndrome (HS) refers to disordered organ arrangement in the chest or abdomen associated with a variable position of the stomach. Furthermore, isolated situs inversus of the stomach or dextrogastria is the rarest form of all visceral transpositions that occurs in two distinct forms. A case illustrates the radiologic features of type 2 dextrogastria, which is associated with right-sided spleen and eventration of the right hemidiaphragm.

Case presentation

- A 17-year-old boy, stemming from a none consanguineous marriage, was referred to our consultation with a Chest X-Ray (CXR) suspecting a right basal lung cyst. Paradoxically, the patient had no functional complaint, except a mild basi-thoracic pain. He had history of surgical intervention to cure linea alba hernia at the age of fifteen. Examination was normal, apart from a supra-umbilical laparotomy scar.

- Imaging Studies:
  - Chest X-Ray (CXR), front view revealed a right lower lung opacity, topped by a clear crescent (Fig.2). Two years earlier, a preoperative CXR found, almost the same aspect (Fig.1).
  - Chest tomography allowed make the diagnosis of an abdominal situs ambiguous without chest involvement, realizing a dextrogastria, a dextrosplenia, a centrally liver, a malposition of the pancreas with an eventration of the right hemidiaphragm.

Discussion

The incidence of complete transposition of all the viscera (total situs inversus) is about 1 in 6000-8000 cases [1]. Isolated dextrogastria, with otherwise normal positions of the thoracic viscera is the rarest of all visceral transpositions and occurs in two distinct forms. In type 1 dextrogastria, the stomach lies completely behind the liver, but the chest appears normal; in type 2 dextrogastria, the stomach lies above the liver in intra-thoracic position, due to the eventration of the hemidiaphragm [2]. Embryologically, failure of the foregut to rotate normally results in type 1 dextrogastria, whereas failure to complete descent of the foregut from the chest results in type 2 dextrogastria.

Conclusions

Dextrogastria is an extremely rare congenital anomaly, which is often asymptomatic and discovered incidentally. Particularly in type 2 dextrogastria simulating pathology at the right lung base and making its diagnosis challenging for the pulmonologist.

References