

Thoraco-Abdominal Duplication Cyst- Role Tc-99m Pertechnetate SPECT-CT Scintigraphy in Localising Ectopic Gastric Mucosa

Abstract

Thoraco-abdominal duplication cyst, a congenital malformation of the posterior primitive foregut rarely presents with anaemia. Ectopic gastric mucosa is seen in around 20%-30% of the enteric duplication cysts. We report the scintigraphic findings of one such case which helped in final diagnosis and management of the patient.

Key words: *99mTc pertechnetate, ectopic gastric mucosa, SPECT-CT, Thoraco-abdominal cyst*

A 3-year-old child presented with history of recurrent epigastric pain for two months with anemia (5.2 g/dl) and fall in haemoglobin. Ultrasound abdomen revealed an echoic cystic lesion adjacent to pancreas and duodenum. Contrast enhanced computerised tomography thorax and abdomen revealed a cystic lesion in the posterior mediastinum extending from the level of arch of aorta through the esophageal hiatus into the lesser sac of the abdomen. Provisional differential diagnosis of pulmonary sequestration / thoraco-abdominal cyst was considered. Tc-99m pertechnetate scintigraphy was performed in view of fall in haemoglobin. Flow and delayed images identified the ectopic mucosa in the thoraco-abdominal cyst [Figures 1 and 2]. SPECT-CT was further done to confirm the findings [Figure 3]. Following the study, patient

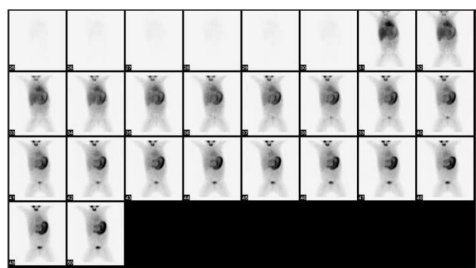


Figure 1: *99mTc* pertechnetate flow images were taken in view of CECT findings of pulmonary sequestration/thoraco-abdominal cyst. The images revealed physiological tracer uptake in the myocardium and stomach. Faint area of tracer uptake noted in the epigastric region adjoining the stomach which increased progressively with time (arrow).

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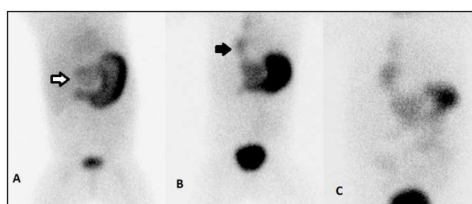


Figure 2: Serial static views were taken at (A) 20 min, (B) 02 h, and (C) 24 h. In image (A), arrow points towards faint tracer uptake in the epigastric region. In image (B), there is linear area of increased tracer uptake noted in the thorax and the abdomen (arrow). (C) 24 h delayed images show persistent increased tracer uptake in the thorax and abdomen with tracer washout from the stomach (arrow).

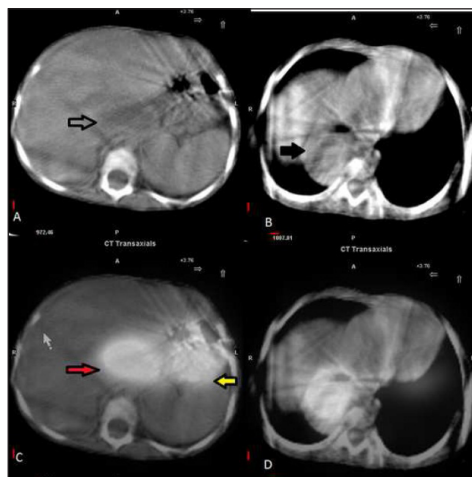


Figure 3: SPECT-CT images reveal (A) hypodense area in the epigastric region with increased tracer uptake as shown by solid orange arrow in image (C). Physiological uptake in the stomach is noted (yellow arrow). Images (B) and (D) show linear area of increased tracer uptake in the thoracic component of the duplication cyst in the posterior mediastinum. The above-mentioned findings localized the presence of Tc-99m pertechnetate (ectopic gastric mucosa) in the thoraco-abdominal cyst.

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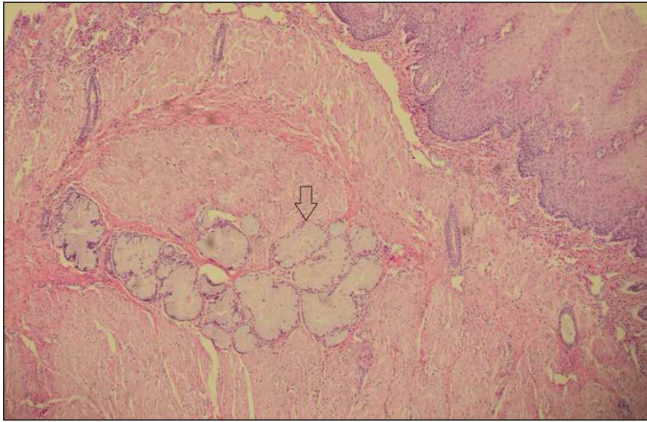


Figure 4: Postoperative histopathology of the foregut (thoraco-abdominal) duplication cyst showing lining partly by stratified squamous epithelium. Numerous lymphoid aggregates and mixed inflammatory cell infiltrates are present in the subepithelium (H and E 20X).

underwent posterolateral thoracotomy and exploratory laparotomy in separate settings. The histopathology revealed ectopic gastric mucosa in the cyst [Figure 4].

Flow and delayed images must be taken to identify ectopic mucosa in duplication cysts as it might only be positive on delayed images in certain cases as in intestinal duplication.^[1-3] Thoraco-abdominal duplication cyst is a congenital malformation of the posterior primitive foregut. Presentation of thoraco-abdominal cyst with anemia is a rare presentation. Ectopic gastric mucosa is seen in around 20%–30% of the enteric duplication cysts.^[4,6,7] The above-mentioned findings localized the presence of Tc-99m pertechnetate (ectopic gastric mucosa) in the

thoraco-abdominal cyst. Thus, SPECT-CT played an important role in increasing the confidence level and reconfirming the planar scintigraphy findings.^[1,2] Further thoraco-abdominal location of the duplication is extremely rare.^[4,5] It emphasizes on imaging protocols and correct identification of the ectopic mucosa in this setting with SPECT-CT.

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Conflict of interest

There are no conflicts of interest.

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