□ Brief Image in Trauma □

Excessive Right Subdiaphragmatic Fat : False radiologic pneumoperitoneum

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ABSTRACT

Excessive fat in the right subdiaphragmatic space may simulate radiological pneumoperitoneum. We report a trauma patient with excessive right subdiaphragmatic fat who were examined with plain chest radiography and abdomen computed tomography. Chest radiography showed a radiolucency separating the liver and right hemidiaphragm. Subphrenic fat pad is substantiated by computed tomography.

KEYWORDS: Subdiaphragmatic fat, Pneumoperitoneum

CASE

A 46-year-old man was admitted to the emergency department with a 3 m-height falling injury. The patient presented with transient hypotension and alert mentality. The physical examination revealed multiple head injuries in addition to multiple rib fractures with scanty amount of hemothorax. He underwent an emergency craniectomy for increasing epidural hemorrhage and compound depressed skull fracture. Supine chest radiography showed a radiolucency separating the liver and right hemidiaphragm (Fig. 1), which might be mistaken for a pneumoperitoneum. Abdomen physical examination revealed soft abdomen and no peritoneal irritation sign. Focused assessment with sonography for trauma showed no intraabdominal fluid collection. Abdomen computed tomography (CT) demonstrated that there were no evidence of intraabdominal organ injury, and the right subdiaphragmatic lesion in chest radiography corresponded to excessive fat pad (Fig. 2).

DISCUSSION

The pseudopneumopenitoneum was used by

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Moknohisky for the appearance of subphrenic air due to a fat pad or an irregular leaf of the diaphragm. Furthermore, pathological processes such as Chilaiditi syndrome, curvilinear pulmonary collapse, ascites, subphrenic abscess, and subpulmonary pneumothorax could be the cause of pseudopneumoperitoneum. Subphrenic fat can be mistaken for intraperitoneal air even in normal patients, especially in chest radiography. CT is the best imaging modality for discriminating this state. Right subdiaphragmatic fat pad might be arising from greater omentum or abnormal fat deposition due to corticosteroid.

Conflict of Interest Statement

None of authors have a conflict of interest.

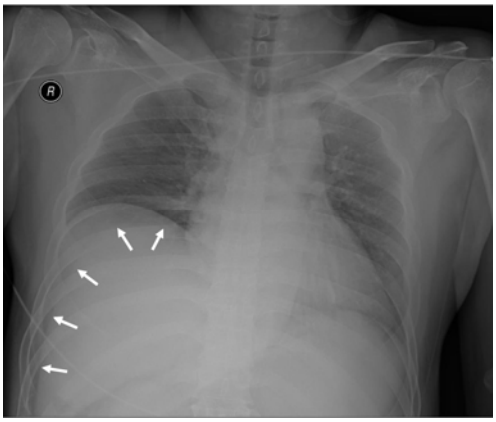

Figure. 1. Supine chest radiography shows a radiolucent lesion separating the liver and right hemidiaphragm (white arrow).

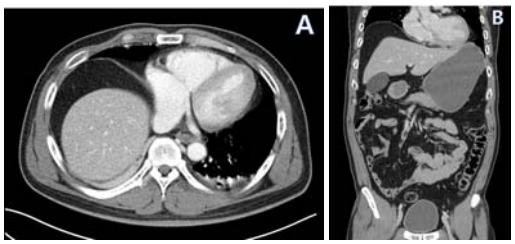

Figure. 2. Abdomen computed tomography shows intraperitoneal fat pad localized between the diaphragm and liver. (A) axial view, (B) coronal view.

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