Pseudo-pneumothorax: skin fold is an excellent imitator

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DESCRIPTION

A 79-year-old hospitalised woman underwent central venous catheterisation for high-calorie infusion. Chest radiography to check the position of the catheter showed a curvilinear line at the lateral zone of the right lung (figure 1A). We suspected pneumothorax and performed CT of the chest. However, it revealed the absence of pneumothorax; the curvilinear mimicked pneumothorax was revealed to be a skinfold (figure 1B).

The lateral margin of the skinfold artefact, caused by compression of flaccid back skin against the film, can be sharply outlined by a lucent line.¹ This line is an edge enhancement phenomenon at the margin between objects with different contrast or luminance (Mach band effect).² The area lateral to the skinfold artefact may be perceived darker than the hilar side because of the added density of the skinfold.

The lung marking sign is useful for differentiate pneumothorax from the other conditions, but in the emphysema and bullous disease, the lung marking can be vanished. Poor or no visualisation of normal lung and vascular tissues of the lateral side reinforced the similar appearance of pneumothorax. In a case with hubbly collapse of pneumothorax, the lung marking can be seen beyond the outside of the collapsed lung.³ In some situations,

Figure 1 (A) Initial chest radiograph showed a curvilinear line at the right lateral zone of the right lung. (B) CT of the chest revealed the absence of pneumothorax.

Patient's perspective

If my chest X-ray findings have many points to learn, please use it as a study material.

Learning points

- Skinfold shadow is a frequent artefact on the anterior-posterior portable chest radiographs of patients in the critical care setting.
- Pneumothorax and skinfold might be difficult to differentiate on chest radiography. In those cases, lung ultrasonography or CT facilitators are helpful to make a correct diagnosis.

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