Clinical Imaging

Pneumothorax induced by the incorrect insertion of a nasogastric tube

An 85-year-old woman received exchange of a nasogastric tube (NGT) by insufflation with air, and auscultation at the epigastric area was considered equivocal by a young physician. Radiographic confirmation revealed incorrect insertion of the NGT into the left tracheobronchial tree and then the NGT was removed (Fig. 1, left panel). The next day, chest X-ray and subsequent computed tomography revealed complication of left pneumothorax (Fig. 1, right panel). She required thoracostomy by insertion of a drainage tube. Incorrect insertion of tubes into the tracheobronchial tree occurs in 0.3–15% of cases.[1] Pneumothorax has also been reported.[1] Two methods for confirming the position of the NGT are currently recommended:[2] chest X-ray and a pH test. Confirmation of the position of the NGT by X-ray is the gold standard method. If an X-ray cannot be obtained quickly, then a pH test is carried out. If the pH of the aspirate from the NGT is ≤5, then feeding can be started. If the pH of the aspirate is ≥6 or if no gastric aspirate is obtained, then a chest radiograph needs to be obtained to determine the NGT placement. Other methods, such as insufflation, can be inaccurate and should not be used.[1,2] In addition, the physician should be more careful when they feel resistance during gastric tube insertion.

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DISCLOSURE

Approval of the research protocol: This case report was approved by the review board of our hospital (approval number: 298).
Informed consent: We obtained informed consent from the patient.
Registry and the registration no. of the study/trial: N/A.
Animal studies: N/A.
Conflict of interest: None.

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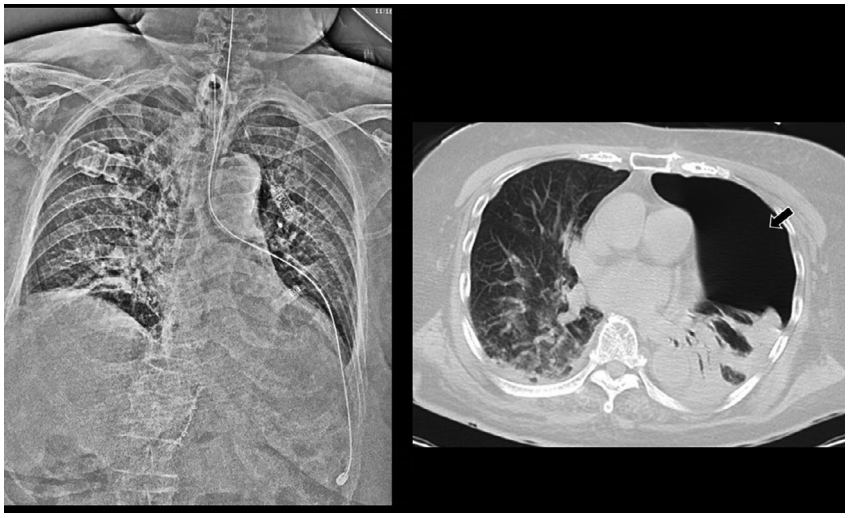

Fig. 1. Chest X-ray (left panel) and computed tomography scan (right panel) of an 85-year-old woman show the incorrect insertion of a nasogastric tube and subsequent pneumothorax (arrow).

REFERENCES

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2 Boeykens K, Steeman E, Duysburgh I. Reliability of pH measurement and the auscultatory method to confirm the position of a nasogastric tube. Int. J. Nurs. Stud. 2014; 51: 1427–33.