

The Enigma of a Ryles tube

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Abstract

Although nasogastric tube (NGT) is a simple procedure, the blind placement of nasogastric feeding tubes is not without risks. Chest radiogram is done to confirm the correct position of the NGT. We report a case where radiography could not be confirmatory for the correct position of the tube in an anatomic abnormalities of gastrointestinal tract.

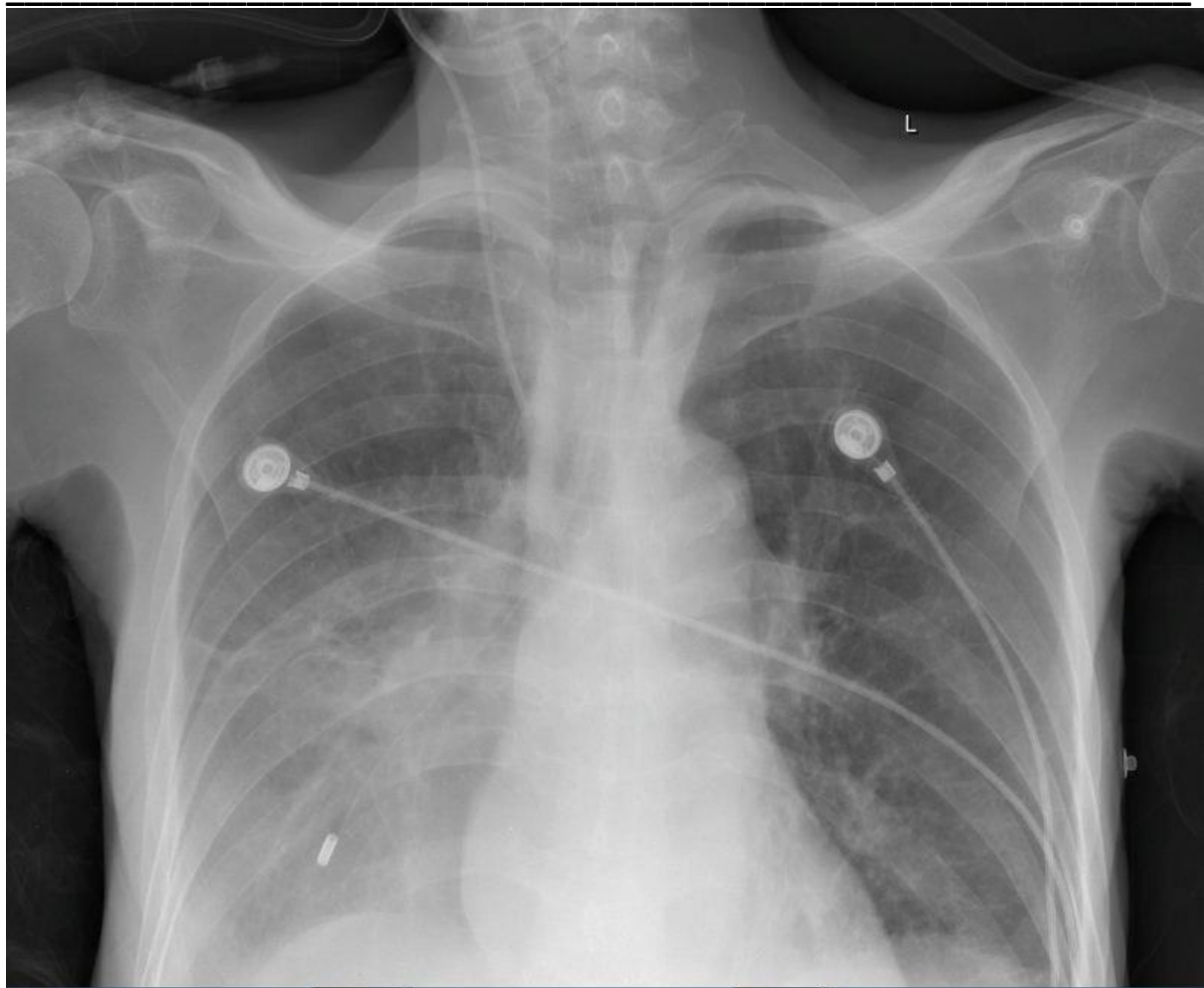
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Introduction

Provision of early enteral nutrition has been associated with significant reduction in mortality and infectious morbidity as providing enteral nutrition maintains gut integrity, decreases bacterial translocation, modulates stress and systemic immune response and attenuates disease severity. Intragastric position of Nasogastric tube (NGT) for providing EN has to be confirmed before starting feed. Most of the times it is inserted blindly, nasogastric tube malposition's are common, which if not identified can be life-threatening. X ray is considered as a gold standard for confirmation of NG position because they can visualize the course of the NGT. We report a case where x ray may not be used as a confirmatory test for NG position in specific group of population with anatomic abnormalities of gastrointestinal tract.

Case summary

We had a 54-year-old male patient with traumatic injury to c-spine and esophagus for whom a gastric pullup and esophago-gastric anastomosis was done. Post operatively the patient was managed in the critical care ICU. Patient was ventilator dependent and later tracheostomized. Naso-gastric tube insertion was done and was followed up by a check by air insufflation method, in which air entry could not be auscultated in the epigastric region. A chest radiograph was taken. The picture was alarming, as it was indicating the placement of the tip in the right main bronchus (Fig 1). However, the patient did not have any respiratory distress and vitals was stable. Immediately a pH test was carried out and the position of the tube was checked with a direct laryngoscopy and bronchoscopy which ensured the tube was in the right place.

**Discussion**

Several methods of NGT placement confirmation is reported in the literature includes observation for presence of bubbling, auscultation with insufflation of air, litmus paper test and several novel methods like use of biochemical markers, capnography/colorimetric capnometry, ultrasound, electromagnetic (EM) tracing, visualization and manometer techniques. None of them are reliable and all of which have their own limitations and further studies are needed for them to be established as a routine practice. Of the several techniques, x ray is considered as gold standard especially in a critically ill, elderly, dysphagic or unconscious patient. Although it is gold standard, it is not fool proof and National Patient Safety Agency reported between 2005 and 2010, 45% of all cases of harm caused by a misplaced NGT. It feasible or safe to be performed before each use of the NGT for patients on bolus feeding and is not reliable in patients with anatomic abnormalities of gastrointestinal tract. PH testing of the aspirate for NGT placement confirmation is recommended by the National Patient Safety Agency in the United Kingdom. However, it is not reliable in patients on continuous feeding and further gastric PH is altered by medications especially acid lowering medications such as H2 antagonist, antacids and proton pump inhibitors. So, single test for NGT placement confirmation may not be accurate particularly in critically ill and patients with anatomical abnormalities of GI tract.

Conclusion

We conclude by saying that a multimodality approach to affirm the position if the ryles tube is needed in cases of gastric pullup surgeries as the anatomy is altered and routine tests can be misleading. Placement under direct laryngoscopy guidance whenever feasible will allow for avoiding confusion.

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