

**Title:**  
**Misplacement of a nasogastric feeding tube: a case report**

**Authors:**  
Flávio Pereira, Richard Azevedo, José Tristan

DOI: 10.17235/reed.2020.6512/2019

Link: [PubMed \(Epub ahead of print\)](#)

Please cite this article as:  
Pereira Flávio, Azevedo Richard, Tristan José.  
Misplacement of a nasogastric feeding tube: a case report. Rev Esp Enferm Dig 2020. doi:  
10.17235/reed.2020.6512/2019.



*This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.*

Accepted Article

CC 6512

**Misplacement of a nasogastric feeding tube: a case report**

Flávio Miguel Lourenço Pereira, Richard José Lopes Azevedo and José António Tristan Faria de Barros

Department of Gastroenterology. Amato Lusitano Hospital. Castelo Branco, Portugal

**Correspondence:** Flávio Pereira

e-mail: pereiraflavio14@gmail.com

**Keywords:** Nasogastric tube. Enteral feeding. Aspiration pneumonia.

*Dear Editor,*

We present the case of a 76-year-old male with a past medical history of cerebellar ataxia who was admitted due to community-acquired pneumonia. He had presented several times previously with respiratory tract infections. During hospitalization, a dysphagia for liquids and signs of malnutrition were reported. Laboratory tests showed normocytic anemia, hypophosphatemia and hypoalbuminemia. An upper gastrointestinal endoscopy did not reveal an obstructive cause of the dysphagia.

Enteral feeding was started in order to provide nutrition support. An 18 Fr polyvinyl nasogastric tube (NGT) was introduced with some resistance and its gastric position was confirmed via air insufflation and epigastric auscultation. Enteral feeding was started. A few hours later, the patient presented with respiratory distress. An urgent thoracic computed tomography was requested due to a suspicion of pulmonary embolism. This showed the NGT inside the respiratory tree, extending to the right lower lobar bronchus, with its distal extremity in the intraparenchymal topography (Fig. 1). A densification of the right lower lobe consistent with an aspiration pneumonia was also observed. The NGT was removed, a new insertion was attempted and the gastric position was radiographically confirmed. Enteral feeding was started uneventfully.

## Discussion

NGT misplacement in the respiratory tract occurs in 2% of patients (1) and can lead to serious complications such as vocal cord injury, perforation of the trachea or pleura, aspiration pneumonia and death (1). Therefore, after blind insertion, confirmation of the correct placement prior to feeding using reliable methods is mandatory (2). An auscultatory method is unreliable (3), as seen in our case. Radiography remains the gold standard and it should be used whenever possible (2). Besides, methods such as pH measurements (4) or ultrasonography (5) may be useful to reduce or replace the need for radiologic confirmation. In difficult cases, the insertion can be performed with endoscopic or fluoroscopic assistance. Our case highlights the need for the confirmation of NGT correct placement using a reliable method.

## References

1. Sparks DA, Chase DM, Coughlin LM, et al. Pulmonary complications of 9931 narrow-bore nasoenteric tubes during blind placement: a critical review. *J Parenter Enter Nutr* 2011;35(5):625-9. DOI: 10.1177/0148607111413898
2. AACN Practice Alert. AACN practice alert initial and ongoing verification of feeding tube placement in adults. *Crit Care Nurse* 2016;36(2):8-14. DOI: 10.4037/ccn2016141
3. Metheny N, McSweeney M. Effectiveness of the auscultatory method in predicting feeding tube location. *Nurs Res* 1990;39(5):262-7. DOI: 10.1097/00006199-199009000-00002
4. Gilbertson HR, Rogers EJ, Ukoumunne OC. Determination of a practical pH cutoff level for reliable confirmation of nasogastric tube placement. *J Parenter Enter Nutr* 2011;35(4):540-4. DOI: 10.1177/0148607110383285
5. Tsujimoto H, Tsujimoto Y, Nakata Y, et al. Ultrasonography for confirmation of gastric tube placement. *Cochrane Database Syst Rev* 2017;2017(4). DOI: 10.1002/14651858.CD012083.pub2

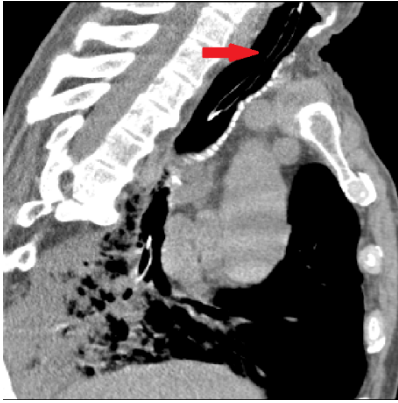


Fig. 1. Thoracic computed tomography (sagittal view): nasogastric tube inside the trachea and the right lower lobe bronchus.

Accepted Article