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Clinical Image
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Internal Necklace as a Nasogastric Tube Placement Complication

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Clinical Image

Though insertion of a Nasogastric Tube (NGT) is a common clinical procedure, it may be associated with severe harms due to iatrogenic complications, especially tube misplacing [1]. These complications range from epistaxis and sinusitis to pneumothorax and pharyngo-esophageal perforation [2]. In a recent integrative review, eight case reports described the occurrence of esophageal and/or pharyngeal perforation related to the insertion of the NGT [3]. Here we report an unusual case of oropharyngeal perforation opposite the left tonsillar compartment while trying to insert a NGT tube under general anesthesia.

A 58-year-old woman with arterial hypertension was scheduled for an esophagogastroduodenoscopy to explore dysphagia. During the procedure, the patient presented with major facial emphysema without hemodynamic failure, leading to an emergency intubation. A chest scan was performed finding diffuse mediastinal emphysema, without visible perforation. Probabilistic antibiotic therapy was started with amoxicillin-clavulanic acid. Due to the persistent suspicion of esophageal perforation, a new CT scan was performed. It found a nasogastric probe in the left para-pharyngeal space along the jugulo-carotid arteries following a probable perforation of the oropharynx opposite the left tonsillar compartment (Figure 1). There was a subcutaneous emphysema, pneumomediastinum and pneumoperitoneum of contiguity. However, a secondary esophageal perforation couldn't be excluded, though not visible on the CT scan. The nasogastric tube was removed in the operating room by the ENT team. An endoscopic examination was realized, finding ulcerations of the oropharynx without visualizable entry point. Treatment with PPI was started and the initial antibiotic therapy was continued.

The patient was finally extubated after 14 days of mechanical ventilation under the cover of suitable analgesia, after corticosteroid systemic therapy. She also had antibiotic therapy with amoxicillin-clavulanic acid and fluconazole for 14 days to cover a possible mediastinitis. After extubation, the evolution was quickly favorable on the ENT and respiratory level with complete weaning in oxygen, and without laryngeal dyspnea. In terms of food, the ENT opinion recommended the abstention of oral food for at least 7 days, apart from the gelled water which is allowed, to help healing of the pharynx. On the infectious level, the patient was treated with cefepime for nosocomial pneumonia caused by *Serratia marcescens* and *Klebsiella oxytoca*.

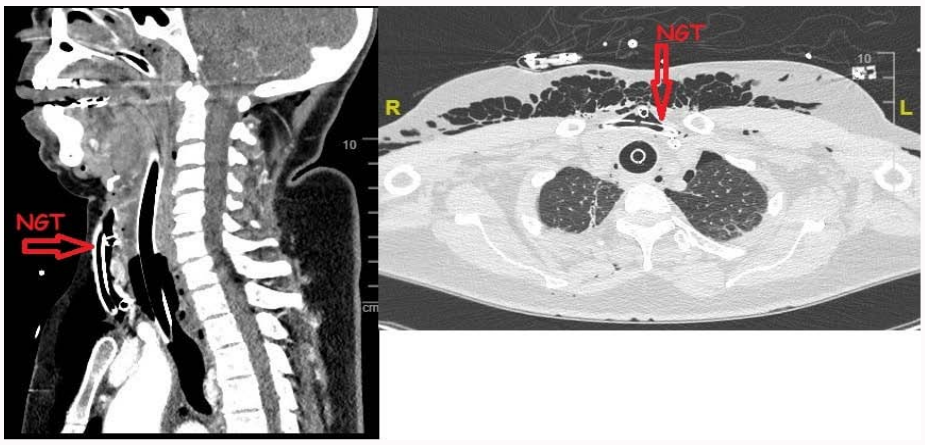

Figure 1: Neck CT scan showing misplaced NGT, subcutaneous emphysema and pneumo-mediastinum.

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NGT tube insertion is considered a simple and innocuous procedure, yet it is associated with severe adverse events. Complications can include perforation of the pharyngo-esophageal region. An iatrogenic parapharyngeal abscess in an elective laparoscopic cholecystectomy, which developed after several attempts of NGT insertion, was reported [4]. Another case report described how a nasogastric tube perforated the posterior nasopharynx in the midline and had dissected along the posterior mediastinum entering the left pleural space and causing pneumomediastinum [5]. Misplacing NGT tube occurs because of the lack of consensus on a standard method of this device insertion and placement assessment. Also monitoring the insertion of NGT tube with the help of technologies such as electromagnetic device or the endoscopy method is topical, in order to reduce the incidence of these iatrogenic avoidable complications.

Authors Contribution

Bernard Allaouchiche and Charles-Hervé Vacheron have given substantial contributions to the conception or the design of the manuscript, Olivia Vassal and Florent Wallet to acquisition and interpretation of the data. All authors have participated to drafting the manuscript, Bernard Allaouchiche revised it critically. All authors read and approved the final version of the manuscript.

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