

Intra-Tracheal Migration of the Tracheotomy Cannula: A Case Report

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Abstract

Case Report

Tracheotomy is a lifesaving procedure often performed by intensivists and emergency physicians. Depending on the indication for its performance, it can be either temporary or permanent. In the latter case, the use of a tracheotomy cannula can expose the patient to numerous and severe complications. We present a very rare case of a 65-year-old diabetic on oral antidiabetics, operated 7 years ago for laryngeal carcinoma and has since been carrying a short MG Krishaber-type tracheotomy cannula. The patient was admitted to the emergency department reporting intra-tracheal migration of his cannula after he had used scissors to separate the collar from the cannula due to discomfort. Thus, it was successfully extracted using the flexible bronchoscope. The patient was discharged with a new cannula and was sensitized to the importance of consulting his doctor for any complications, discomfort, or issues with the cannula.

Keywords: Tracheotomy, Cannula, Migration, Intra-tracheal, Bronchoscopy.

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INTRODUCTION

Tracheotomy is a surgical procedure that involves making a small opening and placing a cannula between the thyroid cartilage and the base of the neck. Its purpose is to allow air to enter the lungs without passing through the nose or mouth. It can be either permanent or temporary. However, tracheotomy cannulas carry their own specific set of complications, including intra-tracheal migration of the cannula, which is rare, but possible [3].

METHODS

We report a case of intra-tracheal migration of a tracheotomy cannula admitted to the emergency department of the Mohamed V Military Hospital of Rabat in July 2024 after using scissors to separate the collar from the cannula due to discomfort. The patient's consent is obtained for the publication of his case.

REPORTED CASE

A 65-year-old diabetic patient on oral antidiabetics, operated 7 years ago for laryngeal carcinoma and has since been carrying a short MG Krishaber-type tracheotomy cannula. He was admitted to the emergency department reporting intra-tracheal migration of his cannula after he had used scissors to

separate the collar from the cannula due to discomfort. Clinical examination found the patient to be neurologically, hemodynamically, and respiratory stable, but the cannula was absent at the tracheotomy site.

A chest X-ray showed the presence of the cannula in the right main bronchus, allowing pulmonary ventilation on that side (FIGURE 1).



Figure 1: Chest X-ray (frontal view) showing the cannula in the right bronchial tree

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The patient was urgently transferred to the ORL operating room for the placement of a new cannula to prevent respiratory distress, and then to the pulmonology department for extraction of the cannula via flexible bronchoscope.

The flexible bronchoscope introduced through the tracheotomy orifice revealed the presence of the cannula in the right main bronchus (**FIGURE 2**).



Figure 2: The cannula in the right main bronchus



Figure 3: Extraction of the cannula



Figure 4: Extraction of the cannula using forceps

The cannula was successfully extracted with the assistance of an ORL specialist team, initially using the bronchoscope (**FIGURE 3**), and secondly with forceps through the tracheotomy orifice (**FIGURE 4**). Endoscopic control showed no abnormalities (no

bleeding or remnants of the cannula in the right bronchial tree), and the chest X-ray was normal (**FIGURE 5**).

The patient was discharged with a plastic cannula and was sensitized to the importance of consulting his doctor for any complications, discomfort, or issues with the cannula, and was informed on how to maintain it.



Figure 5: Follow-up chest X-ray

DISCUSSION

Tracheotomy is an ancient procedure, first described by Galen (129-216 before J.C), practiced throughout the Middle Ages and the Renaissance [1], and later utilized by Trousseau during diphtheria epidemics.

Through the tracheostomy stoma, a cannula is inserted into the trachea. Depending on the situation, the cannula may be simple or have additional features such as an internal sleeve for cleaning, a cuff to prevent aspiration, or a fenestrated design or speech device to facilitate communication [2]. For our patient, the tracheotomy cannula used is a short MG Krishaber (**FIGURE 6**).



Figure 6: Short MG Krishaber cannula

The indications for tracheotomy are numerous and primarily include respiratory distress due to upper airway obstructions, tracheal trauma, laryngopharyngeal

tumors, difficult intubations, long-term assisted ventilation, and chronic respiratory failure [3].

Its complications are also numerous [3], including postoperative pain, an uncomfortable cannula for the patient as in our case, obstruction of airflow due to the accumulation of thick secretions, respiratory infections, infection of the stoma in less than 5% of cases, bleeding after the procedure, neck edema, pneumothorax in less than 1% of cases, and finally, intra-tracheal migration of the cannula, which is an exceptional complication [4].

CONCLUSION

Intra-tracheal migration of the tracheotomy cannula is an exceptional complication. Prevention requires not only technical skill but also the proper selection of the cannula, rigorous monitoring, and regular care. Additionally, patient education on how to clean the cannula and the risks of altering the architecture of the intra-tracheal device is crucial. Finally, Patients should inform his physician for any complications, discomfort, or issues with the cannula.

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