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A Case of Extensive Granulation: An Ignored Tracheostomy

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Abstract

Tracheostomy is a common surgical procedure but with various complication. While granulation formation can be evident, there is very little research regarding the extent of granulation pervasion into surrounding structures. In this clinical image, we describe a case of significant granulation formation in a patient with chronic tracheostomy and emphasize the adverse effects due to lack of proper tracheostomy management.

Keywords: ***Tracheostomy, Critical care medicine, Respiratory medicine.***

1. Case Description

A 45-year-old Caucasian male with history of Mycobacterium Avium Complex and chronic respiratory failure status post tracheostomy. Two years earlier, he was seen at a tertiary center and was diagnosed with MAI, and discharged with a size 8 trach. He became chronically-ventilator dependent at home on AVAPs with tracheostomy replacement before this admission. Patient was admitted for cardiogenic shock and hypoxemia. He underwent orotracheal intubation and placed on mechanical ventilation. He was subsequently extubated but continued to desaturate. Bronchoscopy was performed, which demonstrated granulated tissue leading to near total tracheal occlusion as seen in Fig. 1. After unsuccessful attempts of carinal visualization despite meticulous debridement, patient's tracheostomy was changed to size 8 XLT beyond the site of granulation. Repeat bronchoscope showed improved view of carina. A RUL bronchus with extensive mucus plugging in the right main stem was identified. Biopsies revealed necrotic debris and inflammatory cells. Left-sided airway showed minimal abnormalities. Initial plan was to transfer patient to a tertiary center for further debridement. Unfortunately, due to worsening despair regarding his condition and quality of life, patient decided to pursue Hospice and subsequently expired within a month. In critically ill patients, tracheotomy is one of the most common surgical procedures [1]. There are numerous complications that can arise from chronic tracheostomy including: tracheomalacia, hemorrhage, aspiration, stenosis, and granulation tissue formation [2].

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Granulation formation can be seen, but the extent to which it can pervade into the surrounding structures has not been well documented. In patients who have a chronic tracheostomy tube there are no clear guidelines on replacement management. Studies have shown that anywhere from two weeks to three months replacement can lead to decreased granuloma formation requiring surgical intervention [3], [4]. The American Thoracic Society does not have specific guidelines for replacement of chronic tracheal tubes [5].

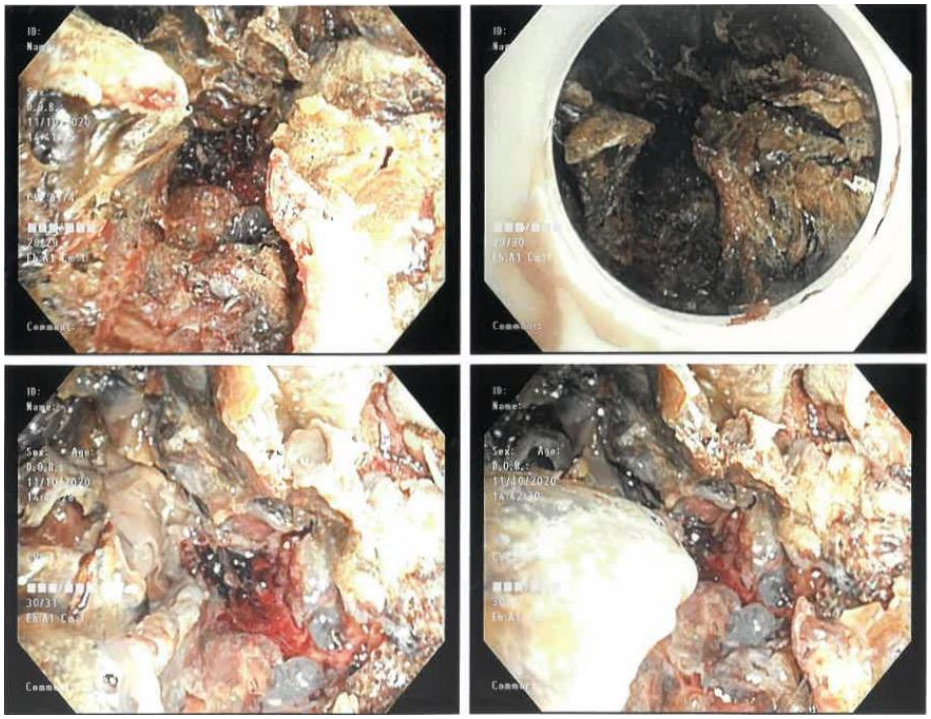

Fig. 1. Demonstration of extensive granulation at the proximal trachea leading to near-total tracheal occlusion.

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