

# Complications Associated with Tracheostomy and Its Postoperative Care

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Dear Editor.

Regarding the article on airway management by submental intubation in maxillo-facial fractures,<sup>i</sup> published in *Alerta*, volume 4, issue 3, it is pointed out that, although airway management by this intubation can avoid complications and morbidity related to tracheostomy, even with a correct technique and without mishaps, complications can arise as in any other surgical procedure. These possible complications involve certain factors that can be prevented by being aware of them and knowing the postoperative care of the tracheostomy.

Tracheostomy is a common procedure in which a stoma is created in the skin of the neck, which communicates with the trachea. Indications for tracheostomy include prolonged intubation with the need for assisted ventilation, high respiratory obstruction, and retention or aspiration of secretions, among others. Multidisciplinary management must consist of education of the tracheostomy team, standardization of surgical technique and patient follow-up. Evidence shows that many patients who required tracheostomy and received care from a dedicated inter-professional team showed improvements in several clinical outcomes.<sup>ii</sup>

It is important to consider certain pathologies that are prone to develop adverse events in tracheostomies. For example, patients with obstructive sleep apnea may have a higher risk of suffering acute post-tracheostomy complications. In contrast,

most patients with obstructive lung disorders such as asthma or chronic obstructive pulmonary disease do not have a high risk of complications, which is clinically significant when considering the usefulness of ventilation and tracheostomy in the management of acute respiratory failure secondary to these conditions.<sup>iii</sup>

Regarding the techniques, obesity has usually been classified as a relative contraindication for the use of percutaneous dilatational tracheostomy, but due to a better understanding of the technique combined with the use of either bronchoscopy or real-time ultrasound, the use of this procedure has extend among patients traditionally considered as high risk.<sup>iv</sup>

Avoiding different complications associated with tracheostomy is crucial. It often requires multidisciplinary management to reduce the time needed for the patient to be able to speak and shorten the hospital stay. Complications can arise during the surgical procedure, in the immediate postoperative period, or later.

According to Natasha *et al.*, overall complications in elective tracheostomies are 12.7 %, while in emergency tracheostomies they occur in 38.2 %.<sup>v</sup> Early complications include hemorrhage, emphysema, pneumothorax and the blockage or displacement of the cannula. Late complications such as tracheoesophageal fistula, tracheal stenosis, tracheocutaneous fistula, are more frequent in emergency tracheostomies, critically ill patients, burned patients and children.<sup>v</sup>

## OPEN ACCESS

**Complicaciones asociadas a la traqueostomía y sus cuidados posoperatorios**

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Tracheostomy management and care is multifaceted and costly, commonly involving patients with complex conditions with prolonged hospitalization. Postoperative care includes local hygiene with stoma cleaning and frequent gauze changes to keep the adjacent skin dry and prevent bacterial colonization. Some factors contribute to the prolongation of the decannulation process, such as those with intubation for more than 12 days, total laryngectomy for cancer, and major surgery related to the gastrointestinal tract.<sup>vi</sup>

In summary, emergency airway management has always been a challenging task for medical personnel. It is important to know and prevent the different complications associated with tracheostomy and to plan for multidisciplinary management. It is required that healthcare personnel involved in the multidisciplinary management of tracheostomy patients include family and patient education, standardization of surgical technique for open and percutaneous tracheostomies, communication and patient follow-up, as many patients who underwent tracheostomy and received care from a dedicated interprofessional team showed improved clinical outcomes.<sup>ii</sup>

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