**IMPACT OF DURATION OF TRACHEOSTOMY DEPENDENCE ON TRACHEOCUTANEOUS FISTULA DEVELOPMENT IN CHILDREN**

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## BACKGROUND

- Tracheostomy is a lifesaving procedure increasingly performed in children, despite changes on indications.
- The procedure still has a profound lifestyle change implication for families of tracheostomized children and an increase in morbidity/mortality compared to adult peers.
- There is still controversy regarding the appropriate indications, timing and decannulation protocols.
- Persistent tracheocutaneous fistula (TCF) is among most frequent long-term complications.

## OBJECTIVES

- To determine whether the duration of tracheostomy influences on the risk of developing persistent TCF.
- To assess whether factors such as the age at performance of procedure, genre and indication of tracheostomy influence on the risk of developing persistent TCF.

## METHOD

Retrospective review of medical records of patients under 16 yo, who underwent both tracheostomy and decannulation process, during the period of 2011-2017.

## RESULTS

![Graph showing incidence of TCF, gender distribution, and main tracheostomy indication](image)

- Incidence of TCF: 16.1%
- Gender distribution: Male 58.1%, Female 41.9%
- Main tracheostomy indication: 60.1% Development in children, 39.9% in adult

## DISCUSSION

Main tracheostomy indication was **UAO depending on subglottic stenosis**, usually preceded by endotracheal intubation. Overall, 66.7% of patients developed TCF. There was a significant difference in the incidence of TCF according to duration of tracheostomy dependence, with higher relative risk when duration exceeded 23 months.

Genre and age at tracheostomy had no impact of developing TCF.

Likewise, there was no statistical relationship between diagnosis conditioning tracheostomy performance and TCF. However, diagnosis conditioning tracheostomy procedure influences time of dependence on tracheostomy, in addition to patient comorbidities. Furthermore, therapeutic approaches tended to be determined by comorbidities.

More data and prospective studies are needed in order to clarify on an optimal pediatric decannulation protocol and tracheostomy care.

## LIMITATIONS

- Single medical centre retrospective design.
- Often incomplete Information regarding the matter of emergency or planned tracheostomy.
- Not every patient underwent tracheostomy in our medical centre.

## FLOWCHART OF PATIENTS INCLUDED

- Population of children <16 yo both treated with tracheostomy and decannulated.
- Patients included: n: 57 patients
- No gender or ethnic group excluded.
- No indication of tracheostomy was excluded.
- Patients with previous or posterior ENT surgical procedures were included.

## PATIENTS EXCLUDED:

- Patients with no successful decannulation process.
- Patients with less than 6 months follow-up after decannulation process.

## GROUP CLASSIFICATION

- Upper airway obstruction (UAO)
- Lower airway obstruction (LAD)
- Lower airway disease (LAD)
- Long term assisted ventilation due to systemic condition (SC)

## REFERENCES