

Protocols for ventilatory weaning and early rehabilitation in a COVID-19 ward: the central role of the speech and language therapist

Forni Ruben^{1,2} & Tea Besana³, Ogna Adam⁴

¹CREOC Service of Physiotherapy, San Giovanni Hospital, Bellinzona, Switzerland

²Department of Business Economics, Health and Social Care, University of Applied Sciences and Arts of Southern Switzerland, Manno, Switzerland

³Clinic of Neurology, Neurocenter of Southern Switzerland, EOC, Lugano, Switzerland

⁴Respiratory Medicine Service, La Carità Hospital, Locarno, Switzerland

Introduction

The ODL Tracheo Ward (OTW) is an interprofessional solution for the management of complex clinical situations in the Covid-19 era. The OTW acted as a clearing house for the ICUs and allowed to regulate the flow of critical patients within the hospital.

Created within the La Carità hospital in Locarno during the first Covid-19 wave, it was reopened to cope with the second wave on 15.11.2020 and closed again on 08.02.2021.

Internal Organisation

The OTW was set up to manage a maximum of 15 beds to host post-tracheotomy patients that were in a relatively stable condition but still needed ventilatory support. The care team was composed of:

- 1 pneumologist and two assistants
- 3 to 5 nurses
- 1 speech therapist
- 2 physiotherapists
- 1 occupational therapist.

Aimed Goals of the Ward

The primary objective was to act as a clearing house for the ICU wards. At the same time, the intention was to perform early weaning from the ventilator in a safe environment and the recovery of a physical state that would allow the transfer of the patient to specialised rehabilitation centres.

Results

The OTW was active for 85 days. During this period it hosted 48 patients, 13 of whom were women (27.1%) and 35 were men (72.9%). The average age of the patients was 69.5 years and their stay averaged about 11 days. We witnessed 2 bounce backs in the ICU and unfortunately the death of 1 patient.

Protocols

Thanks to a strong spirit of interdisciplinary collaboration, ad hoc protocols were created and shared, allowing effective and straightforward management of the various situations. The main protocols that were used include:

TLI (Tracheo Level Index): a tracheotomy weaning progression protocol.

	CT's configuration	When
Level 1 (Baseline)	Closed inner cannula, inflated cuff	Always
Level 2	Closed inner cannula, deflated cuff	If patient is awake, sitting or in bed
Level 3	Fenestrated inner cannula, deflated cuff	If patient is awake, sitting or in bed
Level 4	Fenestrated inner cannula, deflated cuff and speaking valve	If patient is awake, sitting or in bed

TSI (Tracheo Score Index): a protocol for identifying the ideal time to remove the tracheotomy.

1 point	Patient oriented
1 point	Patient can stay 24 h with the artificial nose without ventilation
1 point	Good cough reflex, patient can stay with deflated cuff and speaking valve or artificial nose without any aspiration
1 point	Patient does not need profound tracheal aspirations
Tot 4 points	

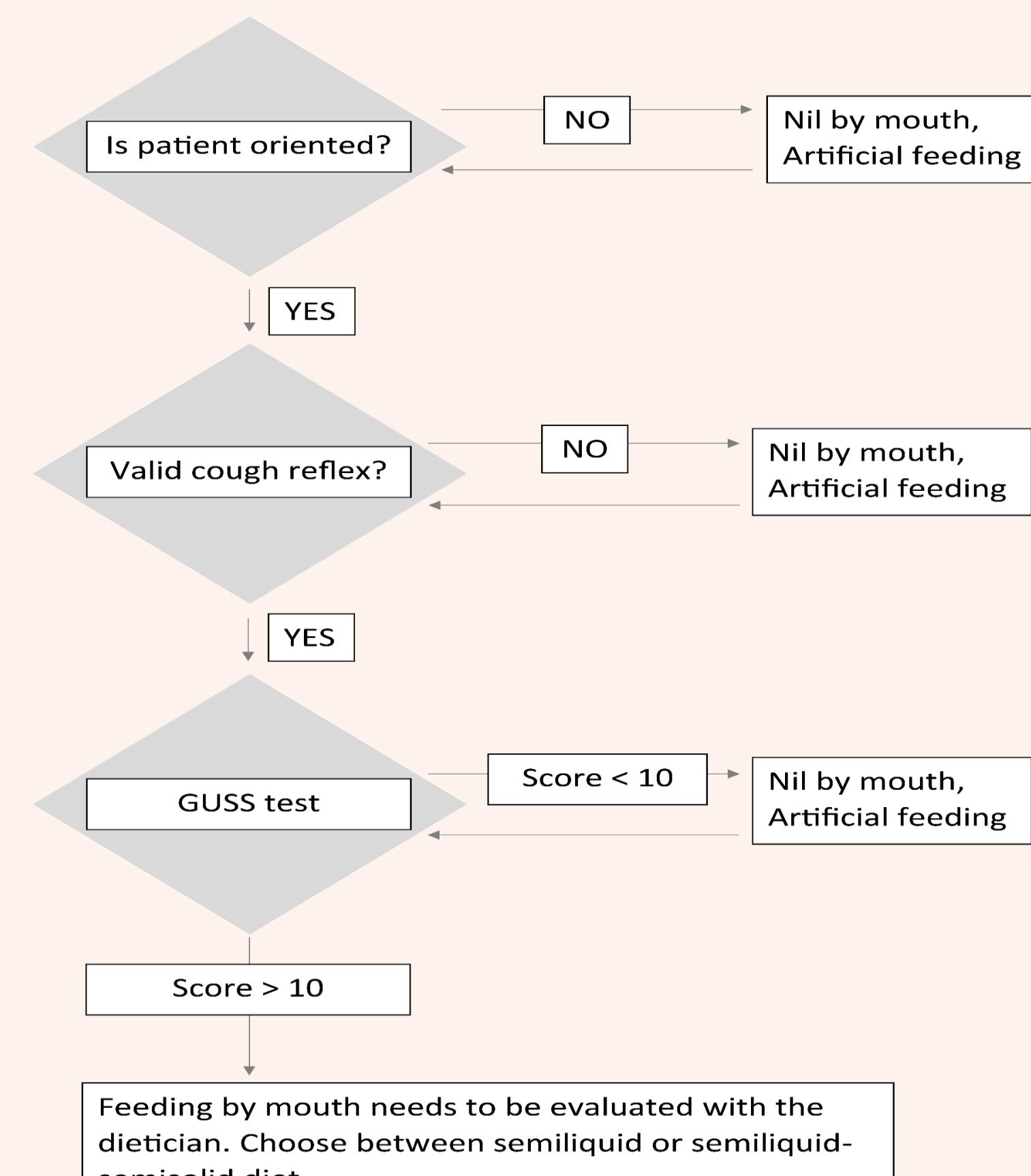
Note: if the patient reached 4 points before removal of the tracheotomy, in addition to infectious evolution and other medical parameters, the possibility of oral feeding must be considered.

An additional flowchart has been developed for dysphagia screening (see "Dysphagia screening flowchart").

These protocols had been developed and already been used during the first wave - at a time when evidence was still lacking - and proved to be safe, reliable and pragmatic.

Dysphagia screening flowchart

(Amitrano, Forni, Besana, Voinea, 2020)



Swallowing screening for "COVID-19 emergency" tracheotomy ward.

Performers: physician or the respiratory therapist, on demand by the physician.

Setting: patient sitting with deflated cuff for at least 30 minutes, all vital signs normal.

Safety: mouth hygiene, aspirator ready to use.

Material: Nutilis Aquagel (semisolid); bottled H2O (liquid); solid: not tested.

Conclusion

The simple fact that 48 patients were housed for an average of 10 days, i.e. a total of 480 bed-days, shows that the OTW was an effective solution during the pandemic period. After this second experience, we can say that even in the early care stages of patients with a severe form of Covid-19, speech therapy skills are fundamental: not so much as regards communication, at least in the acute phase, but for other specific skills such as the ability and to evaluate dysphagia in a context where instrumental assessment was not applicable.

The presence of a SLP allowed to determine central elements in the management of the patient such as resumption of feeding, eventual need for a PEG and possibility of decannulation.

Interdisciplinary work, for example with therapists specialized in ventilation, made it possible to cross-referencing information and take better decisions.

Contacts

Dr Adam Ogna : adam.ogna@eoc.ch
St Besana Tea : tea.besana@eoc.ch
Pt Forni Ruben : ruben.forni@eoc.ch

References

Forni, R., Besana, T., Amitrano, A., Voinea, C., & Ogna, A. (2020). Ventilatory weaning and early rehabilitation in COVID-19-related acute respiratory distress syndrome: the experience at Locarno hospital, canton of Ticino, Switzerland. *Swiss Medical Weekly*. <https://doi.org/10.4414/smw.2020.20397>