

The Submental Route for Endotracheal Intubation

A New Technique

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Submitted 24. 8. 1984; accepted 4. 4. 1985

Introduction

With the intention of avoiding tracheostomies and to make our surgical work easier in chosen cases, the submental route has been developed for endotracheal intubation, thus removing the possibility of its interfering with the oral and maxillofacial territory.

Technique

We need no other material or equipment than that normally used in our surgical duties and the same refers to our anaesthetists.

Summary

A technique of intubation is presented, which can be a valuable alternative to tracheostomy. The tube is passed through a submental incision into the oral cavity.

Key-Words

Intubation – Submental route – Anaesthesia

After normal oral intubation, an incision measuring approximately 2 cm., in the submental and paramedial region is chosen, parallel with the mandibular lower border and at about a finger's breadth from the latter, this may be varied in position and design, depending on the presence of recent wounds, scars, etc. The lower medial mandibular edge is identified using a curved haemostat. The cervical fascia and the skin of the neck are incised, passing the forceps subperiostally from distal to proximal, about 2 cm. The detached surface coincides with the mandibular-lingual osseous portion, which limits the front and paramedial part of the floor of the mouth. In this way, we preserve the submandibular space.

The mylohyoid muscle is crossed in the area of its mandibular insertion, to reach the sublingual space. Passing gently above this space with our haemostat, we will notice the tip of the forceps next to the area where the lingual alveolar

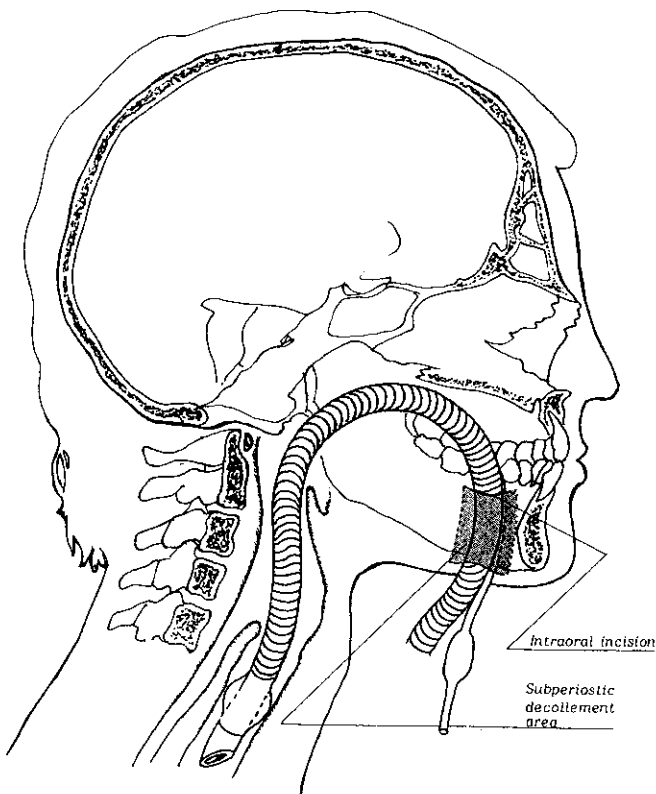


Fig. 1

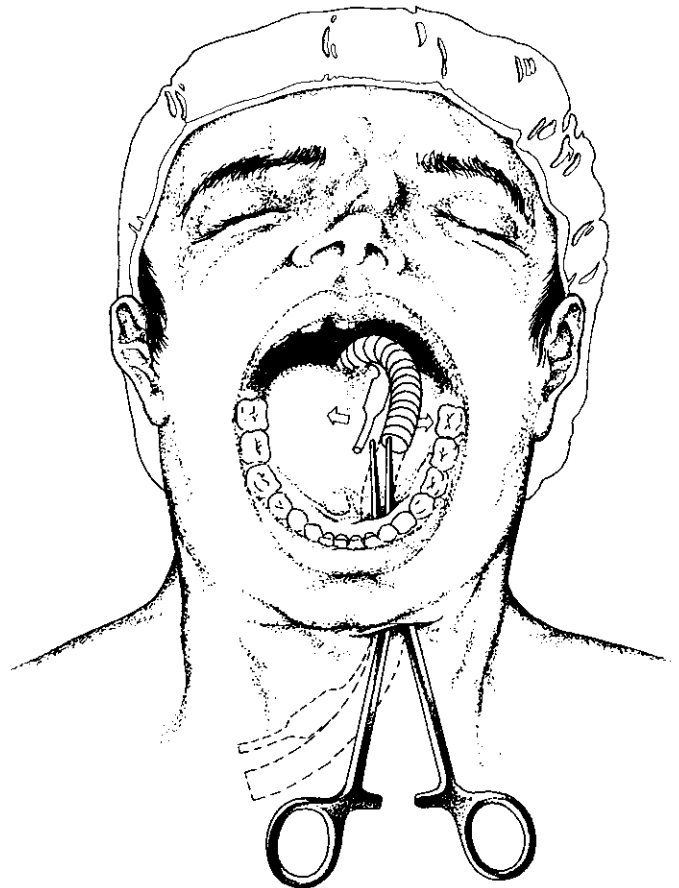


Fig. 2

mucosa is going to reflect to constitute the mucosa of the floor of the mouth.

Where the mucosa is still tightly adherent, an incision is made, parallel with the gingival margin and which measures approximately 2 cm. in length. With the haemostat the lower edge of this last incision is detached.

Through this space, the endotracheal tube has to be passed. With the haemostat we catch the endotracheal tube in the mouth, momentarily deflating the pneumatic cuff, to pass it firstly through our space and then to pass the endotracheal tube itself. A nasal speculum introduced through the submental route can help to pass the endotracheal tube.

When the endotracheal tube is correctly placed, it will be fixed at the submental level, in a similar way to a thorax drainage tube.

Intraorally, the endotracheal tube must be allowed to move from one side of the tongue to the other, to make our intraoral manipulations easier.

Extubation is performed as for any normally intubated patient.

The submental wound is sutured taking advantage of some sutures inserted in advance, without seeking a taut closure, in order to allow thereby a certain degree of drainage.

Discussion

The technique is designed so that the geniohyoid and genioglossus muscles do not have to be crossed, easily sparing also the insertion of the anterior belly of the digastric muscle, as our subperiosteal detachment is done behind the latter insertion (Fig. 1, 2).

We will avoid damaging structures such as Wharton's duct and their orifices, the lingual nerve, the sublingual and submaxillary glands. All this is achieved easily, by correctly applying the technique and knowing the anatomy and function of the area.

The endotracheal tube passes, then, through a space which is related to the anterior belly of the digastric muscle, the most anterior portion of the mylohyoid muscle and the lower edge of the mandible paramedially.

With the proposed innovation, the typical surgical manoeuvres of oral and maxillofacial surgery can be done without the interference of intubation through the natural orifices and without having to resort to a tracheostomy.

When the classical endotracheal intubation, nasal or oral, is possible, it will be preferred to our submental route, as it is less haemorrhagic.

Certain disadvantages can be assumed with our technical innovation, which until now we have not seen, but our experience is still very small:

- Infection in the floor of the mouth (careful active or passive oral hygiene is mandatory, prior to the operation).
- Risk of submental fistulae and anomalous scars occurring, if the submental intubation is excessively prolonged.
- Damage to important structures of the floor of the mouth.

The disadvantage of having to make a submental incision has to be weighed against the trauma which accompanies a tracheostomy.

Conclusions

It is a technical innovation which is easily carried out, and which has precise indications based mainly on the advantage of avoiding the interference of the endotracheal tube in the surgical field and which at times has obliged us to carry out tracheostomy.

Acknowledgement

Special thanks are due to Dr. *Marceliano Tamiño Carrillo*, Head of the Anaesthetics and Resuscitation Service of the "Miguel Servet" Hospital of Zaragoza, who has given us all the support necessary to carry out this technical innovation, as well as to our collaborators.

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