

A MODIFICATION IN OROTRACHEAL INTUBATION USING AN EXTRA-SHORT, RINGED TUBE: A NEW TECHNIQUE

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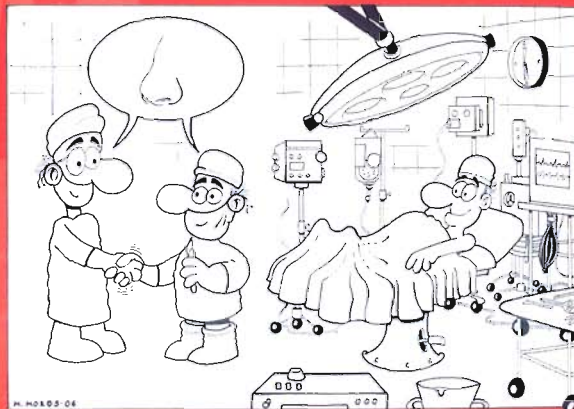
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INTRODUCTION:

It is clear that in our field, where nasotracheal intubation, so apt for the great majority of the most common surgical procedure in oral and maxillofacial surgery and related specialities, continues to be an extraordinary type of intubation for anesthesiologists. The endotracheal tube and the tubes from the ventilation system are a great technical inconvenience, sometimes making certain surgical actions impossible if they are located in the oral region, a fact apparently not always understood by the anesthesiologist. To overcome these difficulties, we have developed a new way of providing all the advantages of orotracheal intubation, with mechanical ventilation support, provided through the nasal route.

MATERIAL AND METHOD:

The anesthesiologist proceeds with the orotracheal intubation using the prepared endotracheal tube (This modification involves reducing the tube's total length in the following way: the connector is removed from the proximal portion of the tube and the smallest possible double connector is coupled to it). The anesthesiologist inserts the wedge between the arches, and the oropharyngeal tamponage. This done, the anesthesiologist, will introduce the chosen ringed nasal tube into the most suitable nasal fossa. It is installed as far as the oropharyngeal space, above the tamponage, from where the anesthesiologist will take hold of it and bring it out of the oral cavity, and immediately connect it to the orotracheal tube's connector, the ventilation tubes being removed before hand, that will be connected immediately to the proximal connection of the nasal tube, in order to maintain patient ventilation. Next the anesthesiologist will pull on the nasal tube, that has been previously been connected firmly to the orotracheal tube, in such a way that, accompanied by the anesthesiologist's hand, it is brought to the pre-uvular or slightly retro-uvular space. Once the surgical procedure activity is completed, the orotracheal intubation will be removed, following the intubation path in reverse, sending the opening of the endotracheal tube back to its position outside of the mouth. Next, disconnecting the nasal tube from the orotracheal tube connection, and proceed with the usual intubation removal procedure.



FIG.1

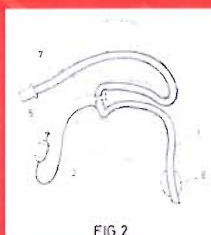


FIG.2

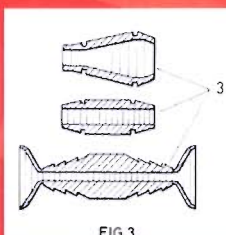


FIG.3

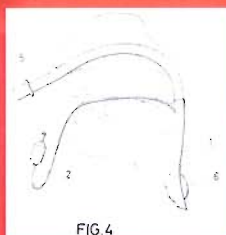


FIG.4

CONSIDERATIONS:

There is no doubt that whenever there are no overriding reasons that contraindicate a nasotracheal intubation, always precise and requiring experience, our alternative, we believe, can be considered, given that it does not break, to all intents and purposes, with the non-specialised anaesthesiologist's routines in the practice of the often complex surgery in the oral and maxillofacial field.



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Introduction:

It is clear that in our field, where nasotracheal intubation, so apt for the great majority of the most common surgical operations in oral and maxillofacial surgery and related specialities, continues to be an extraordinary type of intubation for anaesthesiologists. This often leads to it being managed by the surgeon, not always with success or calm. The endotracheal tube and the tubes from the ventilation system are a great technical inconvenience, sometimes making certain surgical actions impossible if they are located in the oral region, a fact apparently not always understood by the anaesthetist. To overcome these difficulties, we have developed a new way of providing all the advantages of oro-tracheal intubation, with mechanical ventilation support, provided through the nasal route.

Materials and Methods:

At the moment we are using ringed tubes, such as the Ruschelit® Tracheal Tube, appropriately adapted before anaesthesia. This modification involves reducing the tube's total length in the following way: the connector is removed from the proximal portion of the tube and the smallest possible double connector is coupled to it. Next, the endotracheal tube is shortened proximally, to such a point that, once placed in its correct position in the tracheal space, it does not protrude beyond the peribuccal and/or labial space, more than one or two centimetres approximately. In this way the anaesthetist can manipulate it without difficulty. The shortening of the tube requires that the ventilation device of the endotracheal tubes' cuff be maintained, that is until we have shorter, mass-produced, ringed endotracheal tubes available on the market. Once the ventilation device has been conveniently isolated, the endotracheal tube's connector is installed once again, leaving it ready for use. The anaesthetist will have unmodified tubes of the same type, in case it were necessary to use them, as much for his peace of mind as for the patient's safety.

We will also have a ringed tube of a similar calibre, a Ruschelit® Tracheal Tube or something a little smaller, for the nasal intubation, please take note, I said nasal, capable of connecting to the oroendotracheal tube that we prepared previously.

For this type of intubation, we need to have a wedge in our little arsenal, the type routinely used in Oral and Maxillofacial Surgery for the separation of arches. This will help us to install the oropharyngeal tamponage more comfortably and in better conditions, as we will see below.

We will have a gauze bandage moistened in physiological saline solution available for oropharyngeal tamponage. This will normally be installed by the anaesthetist or by the surgeon, under maximum conditions of asepsis, the previously shortened orotracheal tube being fixed manually beforehand, so as not to over intubate.

With all the necessary elements available, the anaesthetist proceeds with the orotracheal intubation using the previously prepared endotracheal tube. Once correctly located in the tracheal lumen they will, or better still, an assistant will manually connect the normal ventilation tubes to the endotracheal tube. The anaesthetist or the surgeon will then insert the wedge between the arches, which will aid the careful and effective positioning of the oropharyngeal tamponage, in such a manner that it seals the oropharyngeal space and "helps" to fix the orotracheal tube in the established position.

This done, the anaesthetist, preferably, or the surgeon, if cooperation is the norm, will introduce the chosen ringed nasal tube, that we repeat, will be of the Ruschelit® Tracheal Tube type, into the most suitable nasal fossa. Its calibre will be as similar to the orotracheal tube as the nostril and nasal fossa will permit. It is installed as far as the oropharyngeal space, above the tamponage, from where the anaesthetist will take hold of it and bring it out of the oral cavity, and immediately connect it to the orotracheal tube's connector, the ventilation tubes being removed before hand, that will be connected immediately to the proximal connection of the nasal tube, in order to maintain patient ventilation. Next the anaesthetist will pull on the nasal tube, that has been previously been connected firmly to the orotracheal tube, in such a way that, accompanied by the anaesthetist's hand, it is brought to the pre-uvular or slightly retro-uvular space. Here the nasal tube is fixed in place by wrapping it in adhesive tape close to the nostril and the perinasal space, as is routine practice, leaving the ventilation tubes suspended behind the head as though it were a normal nasotracheal intubation.

The ventilation device can also be connected intraorally, where it is least likely to cause problems and is safe from damage by instruments. Once the surgical activity is completed, the orotracheal intubation will be removed, following the intubation path in reverse, sending the opening of the endotracheal tube back to its position outside of the mouth. This is done without removing the intermaxillary wedge, thus easing the removal of the tamponage. Next, disconnecting the nasal tube from the orotracheal tube connection, and proceed with the usual intubation removal procedure. The same procedure will be performed if the anaesthetist decides to send the intubated patient back to the recovery room or intensive care. He will of course have removed the tamponage and the wedge, and will fix the assembly of the orotracheal tube and the tube that was nasopharyngeal, peribuccally. The nasopharyngeal tube will have been removed from the nose previously, shortening it once again, so as not to increase dead space and also, so that the length of the endotracheal tube is not missed in the recovery room.

Considerations:

Worried by the difficulties and risks of nasotracheal intubation, we designed and patented a nasotracheal tube, of which the diagram and explication are attached, but that no company as yet has considered for manufacturing. They do not see it as a viable

venture due to its minimal, in their opinion, use. We do not accept this point of view at all, given that hundreds of thousands of nasotracheal intubations are performed around the world every year, not only in oral and maxillofacial surgery, but also in other surgical specialities and/or patients, in recovery and intensive care units, for very diverse pathologies and differing ages. Also, if the technique was made easier by having the appropriate tubes available, it would no doubt become a more common procedure.

The substitution procedure, for conventional nasotracheal intubation, that we have developed in this paper has, in our opinion, a number of possible inconveniences, and before anybody warns us, we believe ourselves capable of recognising them, even though it is clear that anaesthetists and resuscitation specialists would be able to point out the more subtle nuances. For this purpose, there are *Letters to the Editor* in the magazine where these articles are published, and, if there are no comments or proposals, we would ask that those who oppose themselves to our modification of nasotracheal intubation "... forever hold their peace".

One supposes that when we dare to speak in this manner it is because, day after day, there are repeated problems caused in our operating theatres by a not inconsiderable number of anaesthesiologists who practically refuse to perform nasotracheal intubation, even though they cannot justify it, precisely at this time, when anaesthesiology has a large arsenal of resources and knowledge at hand. It is more than clear that Medicine is becoming excessively wrapped up in legal matters, with the result that nobody wants to take responsibilities. This could lead to a situation of professional "hedge sitting", a reproachable attitude, as would be the case of an anaesthetist who refuses to anaesthetise a patient, while being in possession of the means and the know-how.

The protagonism of the anaesthetist is growing in the operating theatres to such a point that the surgical intervention often takes a secondary role. We believe that the path to be taken is one of reconciliation, to the benefit of the patient, and that the obligation of the anaesthetist is to make the surgical intervention easier, so that the surgeon can work in the best possible conditions and apply the most advanced technique precisely, without any kind of hindrance. In oral and maxillofacial surgery and related specialities, it is clear that there is a common ground for the anaesthetist and the surgeon, and it should be managed by both, through consensus rather than imposition by either party.

Nobody is authorised to undermine certain surgical procedures and, so that there be no doubts, I will cite one of the most common cases, that of impacted third molar

exodontias under general anaesthetic. Some anaesthesiologists, even inside the operating theatre, argue with the surgeon over the necessity or convenience of routinely performing exodontias under general anaesthetic, even when they have already been programmed, given that nowadays patients are seen by the anaesthetist before the operation. What is more, they often describe so many problems to the patient, that when they come back to the clinic, they are deeply traumatised. Nobody is saying that the patient should not be informed; it's obvious that this is necessary. It should however, be done in a normal manner, not, to quote an example repeated in our field of oral and maxillofacial surgery, placing emphasis on the possible nasal haemorrhaging that can occur with nasotracheal intubation and the serious consequences this can have. After more than forty years in practice, we believe we are qualified to say that the anaesthesiologists who have difficulty with nasotracheal intubation "also" generally have difficulties with orotracheal intubation. This is not to say that we are not aware that nasotracheal intubation requires experience and preparation.

Without abandoning our work on the modification or substitution that we are proposing for conventional nasotracheal intubation, I do not want to forget to say that our proposal has a number of negative aspects. The first is the shortening of the orotracheal tube. The intra-oral coupling of connections is another problem. They are always less safe than those offered by a conventional nasotracheal tube. It is also possible that the intra-oral connections, at a preuvular or protruding into the tamponed supraglottal space, can damage soft tissue if great care is not taken. They can even puncture or break the hoses' ventilation device, with the serious consequences this can have. In some way then, I believe that the anaesthesiologists, in view of the foregoing, can begin to understand the difficulties for the surgeon caused by a tube in the oral cavity during intraoral surgery.

There is no doubt that whenever there are no overriding reasons that contraindicate a nasotracheal intubation, always precise and requiring experience, our alternative, we believe, can be considered, given that it does not break, to all intents and purposes, with the non-specialised anaesthesiologist's routines in the practice of the often complex surgery in the oral and maxillofacial field, as can be the extraction of an impacted third molar (Wisdom tooth)

