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PREFORMED TRACHEOTOMY. A new actualization

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INTRODUCTION

From our point of view tracheotomies should be avoided, as far as possible (1, 2, 3, 4), to minimize some of its sequels. So we have developed a technique, called preformed tracheotomy, that links the procedures of the conventional and the percutaneous tracheotomy.

In this way, we are trying to fight against a medical saying that goes, more or less: "If you doubt to perform a tracheotomy, it is better to do it". We do not share this proverb that might be useful in old fashioned hospitals. Our thinking is more conservative for modern hospitals.

Sometimes, anaesthesiologists and intensive care physicians ask for a tracheotomy to avoid bigger problems when extubation has to be done. To minimize all these risks we have created the preformed tracheotomy (5, 6).

MATERIAL AND METHODS

Sometimes it is difficult to decide whether a tracheotomy will be necessary immediately after surgery or not. In these cases the technique described might be of use but the traditional tracheotomy is still valid for acute and precisely defined situations (7).

In a patient with a nasotracheal, orotracheal or submental tube, or perhaps without a tube, this technique can be done after surgery, even with local anaesthesia, just in case of completing the tracheotomy later.

The same materials are used as for conventional tracheotomy, together with some aspects for percutaneous tracheotomy (8, 9).

The method begins with a pretracheal incision, vertical or transversal, down to the trachea. After having controlled the first, second and third tracheal rings, **the trachea is not opened.** Instead some reabsorbable or non reabsorbable thread sutures the aponeurosis to fix the paratracheal tissue and four more stitches allow to find the cutaneous planes and are tied into the skin.

After that, the pretracheal space is filled with antibiotic or antiseptic soaked gauze, better povidone, mercurochrome or similar, to keep the pretracheal space in the best aseptic conditions. The pretracheal wound is covered with an adhesive surgical dressing and the patient is sent to the intensive care unit. (Fig. 1 to 8)

When the patient is extubated, -a delicate moment-, the pretracheal structures are on sight to find the trachea immediately, if necessary. If a tracheostoma is asked for, one has just to remove the surgical dressing and the gauze, place the patient with the head and neck in hyperextension and, with the help of a pair of forceps the trachea is opened immediately using the usual pediculated tracheostomy or the percutaneous technique, the cannula is introduced and then, the presentantion stitches of the pretracheal space are detached and the cannula is fixed to the skin.

If the patient had been extubated some hours before and some problems for reintubation appeared, or it is rejected for any cause, the tracheotomy could be done by using our technique, the preformed tracheotomy.

If there are no problems one just has to suture skin and pretracheal tissues and a tracheotomy has been avoided.

DISCUSSION

No doubt, this procedure can be criticized and, it would be sensible to do so, as some people might say that unnecessary surgery is performed and this may lead to infections in an important anatomy place.

But in practice, we have not found any problems and, no doubt, the benefits are more than the inconveniences. It is also irrelevant the fact of having produced a wound and its scar, if we think of the problems of conventional tracheotomy and its sequels.

Another argument against this technique could be that the tracheal cartilages are exposed and this may lead to vascularity problems, chondritis and perichondritis, in short, peritracheal infections. In our cases in experimental animals this fact has not happened. We have left exposed the rings without any protection for some days or weeks, and normally, a scarry tissue for peritracheal cover has been formed; it was effective to avoid damages to the trachea and adjacent structures: vessels, nervous structures, tiroid structures, etc. We have been working with laboratory rats and up till now we have not had any problem.

When the patient's evolution is so good that there is no need to keep the area of tracheal marsupialization, you just have to remove the gauze, daily changed, and the transfixiant sutures. After that, with a small drainage at the tracheal suture the pretracheal preformed tracheotomy is closed (10).

This procedure can be used in those places where the technical medico-surgical aspects can be controlled. If this is not the case, it is obvious that conventional tracheotomy will be the one chosen as, in short, it has more benefits than inconveniences. Nevertheless, we, physicians working in modern hospitals, are obliged to use less bloody procedures as possible.

It is clearly obvious that this technique must be performed by a surgeon specialized in this type of surgery.

In our opinion it is much better to prepare the tracheotomy with the technique we present with a surgical incision and a trachea exposition, rather than a conventional tracheotomy, in some selected cases.

From our point of view, we would also suggest to the industry to make devices to keep the pretracheal space open and to expose the trachea after the model of the window we should have created. In this way, the pretracheal space would be safe and there would be no damage to some other tracheal structures (11).

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Dr. Manuel Moros Peña, author of the drawings.

FIGURES

1. Vertical or horizontal cutaneous incision.
2. Incision in the central line of sternohioideus and sternotiroid muscles.
3. Tiroid exposure.
4. Section and tying of tiroid isthmus in selected cases, in case it might interfere with the tracheostomy.
5. Exposure of tracheal rings 1, 2, 3.
6. No trachea opening, but reference stitches from the bottom to be tied to the skin.
7. Pretracheal space filled with antibiotic or antiseptic soaked gauze.
8. Conventional tracheotomy.
9. Percutaneous tracheotomy.

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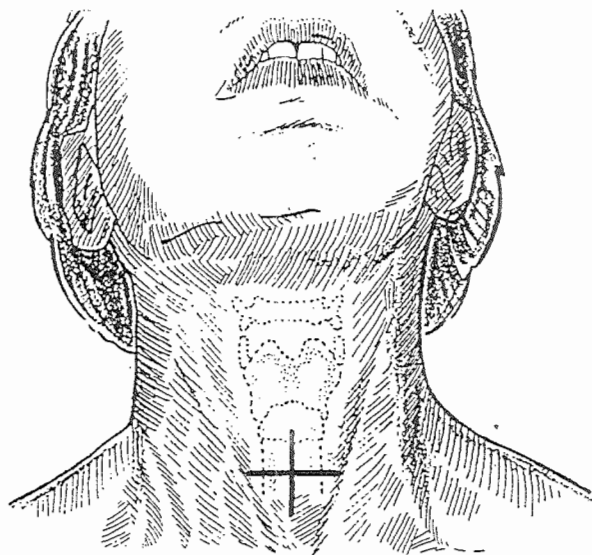


Fig. 1

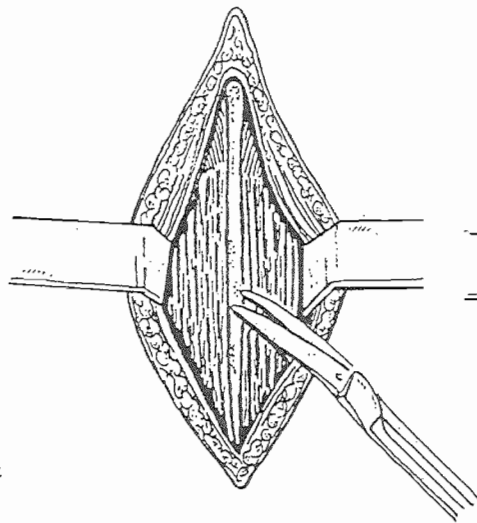


Fig. 2

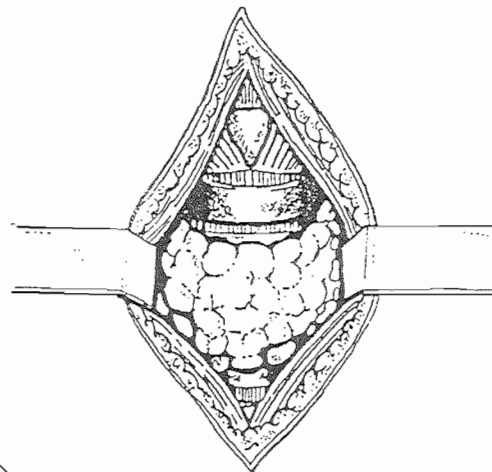


Fig. 3

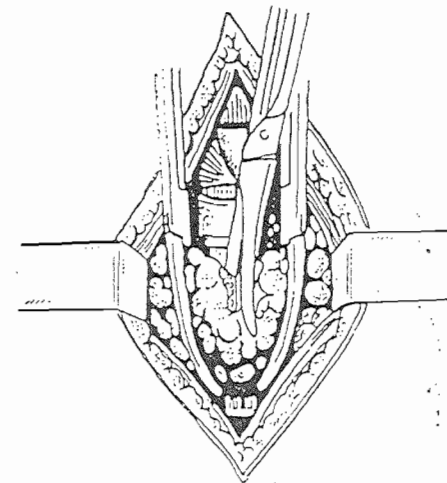


Fig. 4

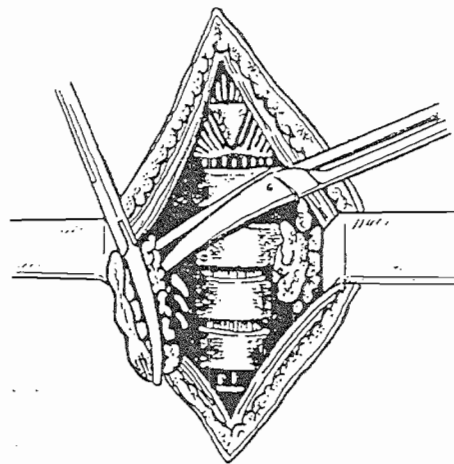


Fig. 5

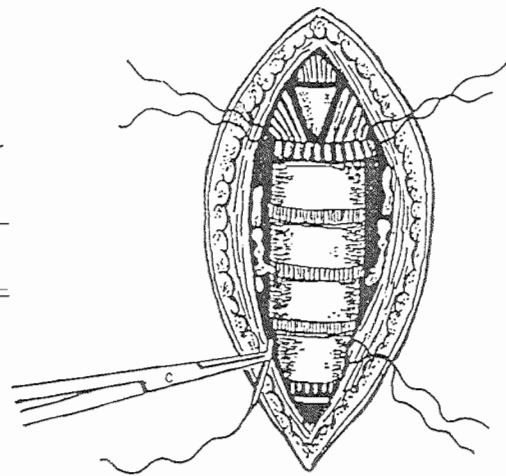


Fig. 6

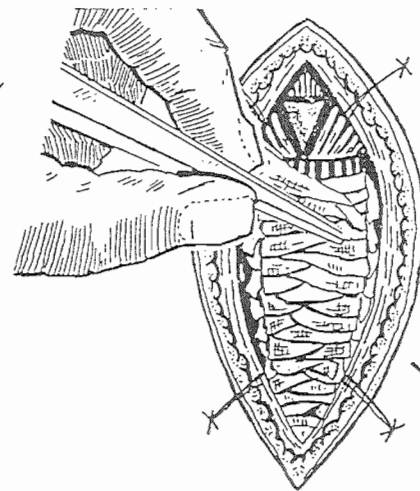


Fig. 7

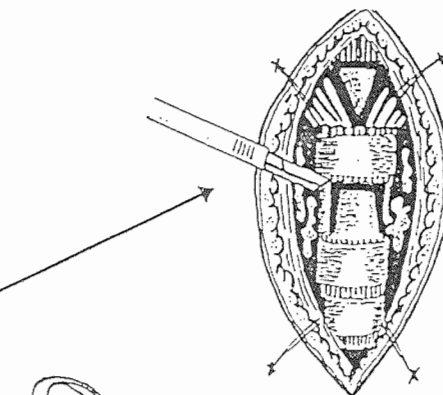


Fig. 8

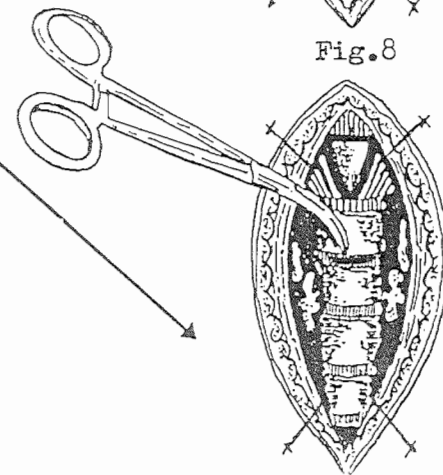
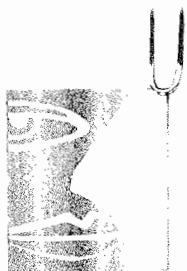


Fig. 9



Hoja de Resumen de Comunicaciones



Madrid del 4 al 8 de junio de 2001

XVI CONGRESO NACIONAL de Cirugía Oral y Maxilofacial

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Título TRAQUEOSTOMÍA PREFORMADA: UNA NUEVA TÉCNICA

Nº DE REGISTRO

PRESENTACIÓN

- Oral
- Poster
- Video
- Infórmate

MEDIOS AUDIOVISUALES

- Diapositivas
- Cinta de vídeo por ordenador

Introducción: Siguiendo con nuestra intención de evitar el mayor número de traqueostomías presentamos un híbrido entre la traqueostomía convencional y la percutánea, que aúna las ventajas de ambas, si bien es posible, si el caso lo requiere, realizar el procedimiento siguiendo todos los tiempos de la traqueostomía convencional, sólo que en dos fases.

Objetivos: Obviar en determinados casos seleccionados la traqueostomía convencional y/o percutánea.

Método: A través de incisión pretraqueal, horizontal y/o vertical, se exponen los anillos traqueales 1º, 2º y 3º, dejando ligado y controlado el istmo del tiroides con hemostasia cuidadosa. Se dan puntos transfixiantes en los bordes de la herida, desde las aponeurosis pretraqueales a la piel, para dejar expuesto y /o marsupializado el espacio pretraqueal. Sólo si se plantean problemas respiratorios y todo ello en las Unidades de Vigilancia Intensiva y en las de Anestesia y Reanimación, con todos los medios necesarios, se llevaría a efecto el segundo tiempo, esto es, la confección del traqueostoma y la canulación correspondiente. Si no ha hecho falta el 2º tiempo se retiran los puntos transfixiantes y se sutura la herida.

Resultados: Se ha realizado el procedimiento en animales de experimentación y se ha iniciado un Proyecto de Investigación consensuado entre los Servicios de Otorrinolaringología, Unidades de Cuidados Intensivos, de Anestesia y Reanimación, de Cirugía Oral y Maxilofacial, etc., que se han mostrado abiertos al proyecto.

Conclusiones: Se trata de un procedimiento a considerar en determinados casos seleccionados, siempre en colaboración con las Unidades y Servicios implicados.

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NOTA: T. las circunscritas elegidas.

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SECRETARÍA TÉCNICA

SEMINARÁN
de Comunicación