

Experience with the new pneumatic nasal tampon in cases of critical nasal bleeding

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SUMMARY

A pneumatic nasal tube is recommended to control serious bleeding in the nasal cavity and nasopharynx. This is easily administered and tightly seals the nasal cavity and nasopharynx. The tube allows reduced nasal respiration with sufficient sealing. It is available in three sizes and has been proven useful by the authors.

THE so-called "uncontrollable", mostly arterial bleeding from the nose and naso-pharynx frequently presents the doctor with the problem of preventing a critical situation from developing for his patient. Only through prompt initiation and continuous control of the bleeding an aspiration of blood in the bronchi, as well as anemic volume shock with its resultant hazards can be prevented.

The numerous reports in the literature (Thost, 1928; Herzon, 1971; Ioffe, 1971; Nesterov, 1971; Feldmann, 1973; Bell et al., 1974; Brusic, 1974; Gottschalk, 1974 and Lindorf, 1974), dealing with various nasal tampons demonstrate that (as) yet no tampon exists which is absolutely reliable, easy to apply and without side effects.

The oldest and most reliable method is that of J. J. Bellocq (1762)). This tampon, however, can only be introduced by a specialist. The application and removal of this tampon is considerably annoying to the patient. A further disadvantage is that nasal respiration is completely blocked. If retained for longer periods, the mucosa becomes macerated. Brusic modified the Bellocq's tampon using foam rubber instead of gouze tampon.

The principle of the pneumatic tampon has found its greatest use in Germany through Seiffert's (1936) tampon tube. The most important disadvantages are, however, the uncertain seal and loose setting. Stevens (1952) developed an inflatable balloon which, however, only seals the nasal cavity.

In the past few years, a series of pneumatic tampons have been recommended to stop nasal bleeding (Eschmann, Stevens among others). We tested one of these models. It was shown that with more serious bleeding, the sealing effect was inadequate.

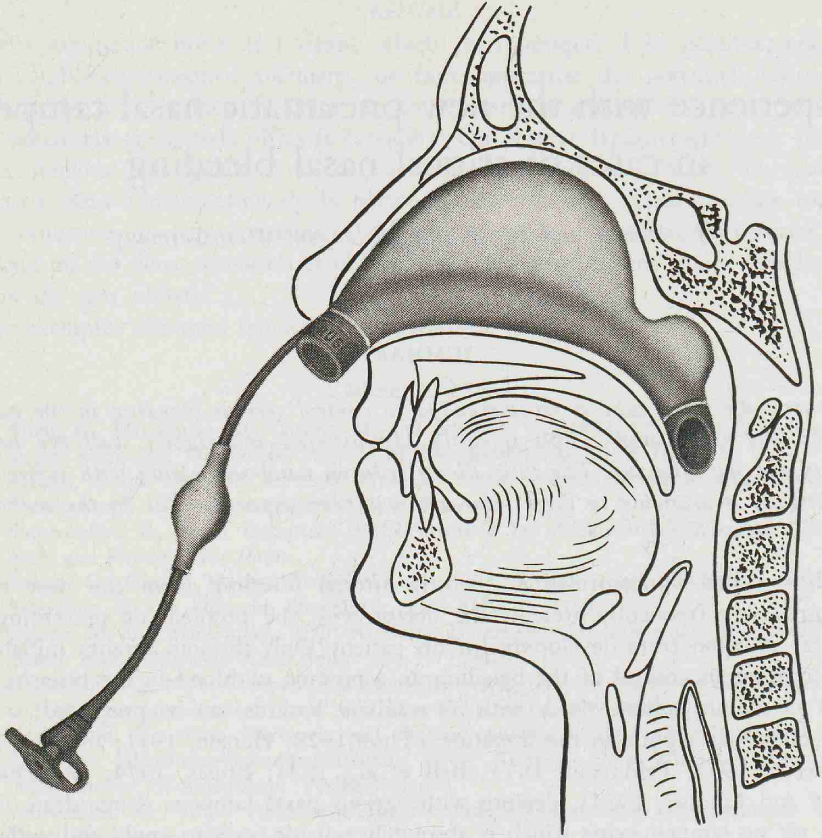


Figure 1. Pneumatic nasal tube. The cuff shape copies the anatomical configuration of the nose and nasal pharynx.

The pneumatic nasal tube (Model Ruesch)

The pneumatic nasal tube developed in our clinic, combines in our experience the advantages of the various tampons on the market today. The tube is composed of a semi-soft, oval, rubber tube enclosed in a rubber cuff. The cuff shape copies the anatomical configuration of the nose and nasal pharynx (Figure 1). The cuff is composed of an air chamber which is uniformly inflated with increasing pressure, thereby entirely sealing the nasal cavity as well as the nasal pharynx. Respiration is possible through the rubber tube at a reduced degree. The control balloon in the conducting tube allows precise supervision of the internal nasal pressure.

This nasal tube is available in 3 sizes: a small for children, as well as a medium, and a large size for adults.

Manufacturer of this tube is W. Ruesch Company
D-7050 Waiblingen, Postfach 1620 West-Germany.

Technique

Application of the pneumatic nasal tube is simple. By spraying both the external and internal surfaces with silicone the administration is simplified and encrusting of the tubal lumen is prevented. The tube follows its path in the nasopharynx through its beveled tip, even if septal ridges are present. The cuff is dilated with air to such an extent, that the bleeding stops. After at most 4-6 (four to six) hours, the cuff pressure can be decreased since in most cases the bleeding has stopped. In cases of more serious bleeding, the tube is left in for one to two days.

In most instances only unilateral administration of the pneumatic nasal tube is necessary. If, however, bleeding in the nasopharynx as, for example, after an adenoidectomy is present, bilateral administration can also be carried out.

DISCUSSION

Within a year's time, we have applied the pneumatic nasal tube in over 40 cases. In most instances, the patients presented with serious bleeding from the dorsal nasal region had already been treated elsewhere with a Bellocq tampon. The most frequent causes of bleeding were hypertension and accidents. If the tampons are bilaterally administered, care must be taken that the cuff pressure is let out after at most 6 hours. Otherwise, the mucosal epithelium might be damaged.

While in place, the tube is well tolerated by the patients despite the initial unpleasant feeling of pressure. The tube is easily removed as the smooth rubber surface does not adhere to the mucosa.

In every instance, an antibiotic should be administered prophylactically to prevent secondary sinus and middle ear infections with an indwelling tube. Application of a soothing nasal ointment is recommended as subsequent therapy.

The pneumatic tampon tube was conceived as an emergency instrument to quickly control critical bleeding which occurs spontaneously after accidents or operations. Experience has shown that the chances of controlling the bleeding decrease with increased blood loss due to the resulting coagulation disturbances. Thus, the source of the bleeding should be quickly and securely sealed. This can be accomplished using the pneumatic nasal tube which can, in an emergency, even be administered by paramedical personnel.

ZUSAMMENFASSUNG

Zur Beherrschung von bedrohlichen Blutungen in der Nase und im Nasenrachen wird ein pneumatischer Nasentubus empfohlen, der sich leicht einführen lässt und Nase und Nasenrachen gut abdichtet. Der Tubus gestattet eine reduzierte Nasenatmung bei ausreichender Tamponade. Er ist in 3 Grössen lieferbar und hat sich den Verfassern bewährt.

RÉSUMÉ

Une sonde nasale à ballonnet gonflable est recommandée pour contrôler les hémorragies graves des fosses nasales et du nasopharynx. Elle est facilement mise en place et bloque très bien ces cavités. La sonde permet une respiration nasale réduite avec une obturation suffisante. Elle existe en 3 tailles et son utilité est démontrée par les auteurs.

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