

Short Communication

How we do it: use of a venous cannulation needle for endoscopic Teflon injection to the vocal folds

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Abstract

Since its introduction in the 1960's the injection of Teflon into a paralysed vocal fold has become a standard treatment in laryngology. Although in recent years alternative treatments have been suggested, such as the injection of collagen or autogenous fat (Mikaelian *et al.*, 1991), re-innervation procedures and thyroplasty (Crumley, 1990), the use of Teflon is still widespread (Rontal and Rontal, 1991; Dedo, 1992). Various instruments have been developed for the application of Teflon paste and these take the form of a gun-like syringe with a ratchet mechanism. For a number of years we have injected Teflon using a needle marketed for internal jugular vein cannulation along with a plastic 1 ml syringe thus making substantial savings to our department in terms of both time and cost.

Key words: Vocal fold paralysis; Polytetrafluoroethylene

Method

The Wallace flexihub needle is 18 cm long and of 16 gauge. The cannula with the outer sleeve is discarded. It is important that the needle is firmly attached to the syringe at the start of the procedure to avoid Teflon acting as a lubricant, causing the two to part. The plunger of the 1 ml syringe is removed, Teflon paste squeezed into the barrel until full, the plunger re-inserted and Teflon extruded from the end of the needle.

Viewing the folds with an operating microscope using the standard suspension microlaryngoscopy technique, the needle is angled across the field of vision and the tip inserted into the vocal fold to be injected, thus the syringe does not interfere with the field of view. Teflon is injected into the folds, the exact position being dictated by the position and extent of wasting evident. Gentle pressure is applied to the syringe whilst an assistant observes the markings on its side thus allowing an exact amount of Teflon to be injected.

Advantages

Whilst a variable amount of Teflon is required for each individual patient there is an advantage in knowing the quantity injected as a considerable amount of Teflon may be inadvertently placed subglottically. If continued application is therefore not leading to medialization of the vocal fold one should be alerted to this possibility. In addition the cross-sectional area of the plunger of a 1 ml syringe is small, so very little pressure is required to inject the Teflon and once sufficient paste has been injected the pressure is released thus avoiding the 'overshoot' of paste often

encountered with the ratchet mechanism of the Bruning Arnold syringe.

Overall there is less danger of over-application thus reducing the well-documented risk of post-operative airway problems (Bates *et al.*, 1984; Solomons and Livesey, 1990; Kasperbauer *et al.*, 1993).

The cost savings are significant. A new Bruning Arnold Teflon paste syringe costs £1,682 + V.A.T. (Downs Catalogue) with each tube of Teflon paste retailing at £232 + V.A.T. It is our practice to use only half a tube of paste for each patient although the manufacturers recommend single use only. The needle used costs £2.26 + V.A.T. and the syringe only a few pence.

Our method simplifies the preparation for Teflon injection and the equipment used is disposable. This is in contrast to the preparation necessary for using the Teflon paste syringe which, in our experience, can be difficult and very wasteful of paste. In addition rigorous cleaning of equipment is essential following the procedure.

Overall the technique is simple and cost-effective and we would recommend it to laryngologists performing endoscopic Teflon injection of the vocal folds.

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