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A precricoid swelling in a patient treated with Teflon injection in the vocal fold after idiopathic left vocal fold palsy

J. A. D. Jol, R. Y. Seedat, D. W. Skinner

Abstract
Vocal fold palsy is a cause of dysphonia. Due to incomplete glottic closure during phonation, patients with a unilateral vocal fold palsy present with a weak and breathy voice and recurrent aspiration. To lessen the clinical manifestations of unilateral vocal fold palsy, polytetrafluoroethylene (Teflon) paste is one agent which has been injected into the paraglottic region, thus causing the vocal fold to move more medially. One of the complications associated with Teflon paste injection is migration of the paste into the surrounding tissues. We present a patient with idiopathic left vocal fold palsy who underwent Teflon injection to the vocal fold and subsequently developed a precricoid nodule, mimicking a cartilaginous swelling.

Key words: Vocal fold palsy; Polytetrafluoroethylene

Case report

A 74-year-old female was referred by her general practitioner with a two-year history of dysphonia. On examination, she was found to have a left vocal fold palsy with a normal upper aero-digestive tract and neck. A cause for the left recurrent laryngeal nerve palsy was not found. There was no palpable swelling of the neck and all investigations including panendoscopy and computed tomography (CT) scanning of the chest were normal. A Teflon injection was performed on her left vocal fold, allowing significant improvement in her voice, with reduced dysphonia and less effort. On review, only one month post-operatively, a one cm nodule was noted overlying the left cricoid cartilage. The larynx appeared otherwise normal. A CT scan of her neck showed a one cm lesion of calcific density on the left side of the cricoid cartilage, precisely located on the site of the palpable neck mass. There were no other significant features (Figure 1). The patient was reluctant to undergo excision of the lump, and at review over the next two years there was no further change noted in the nature or size of the lump. On further review of the CT scan, it was felt that the lump represented extravasated Teflon from the Teflon injection for vocal fold palsy.

Discussion

Unilateral paralysis of the vocal fold n ɔsts itself clinically by dysphonia with a weak and breathy voice and recurrent aspiration. Causes of vocal fold palsy include malignant disease (25 per cent), surgical trauma (20 per cent), inflammatory disease (13 per cent), non-surgical trauma (11 per cent), central (i.e. Parkinson's disease, cerebrovascular disease or multiple sclerosis) or peripheral neurological disease (seven per cent), or miscellaneous causes (11 per cent). In 13 per cent of the cases no cause can be found (Howard, 1997).

As a result of the paralysis, the vocal fold can remain in a paramedian or intermediate position (Howard, 1997). In these conditions Teflon paste injections have been used as one method to decrease the paralysis and have a success rate of 90 per cent (Kasperbauer, 1995). The injected Teflon causes the vocal fold to be repositioned in a more medial position, thus allowing a better glottic closure by the contralateral, functional vocal fold. The injection can

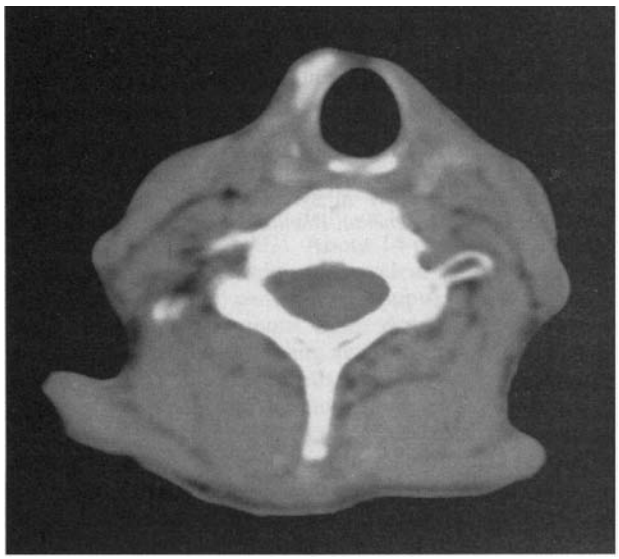

Fig. 1
CT scan of the larynx after Teflon injection. The picture shows a lesion of calcific density overlying the left cricoid cartilage.

From the Department of Otorhinolaryngology – Head and Neck Surgery, Royal Shrewsbury Hospitals NHS Trust, Shrewsbury, UK.
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either be given intralaryngeally or transcutaneously (Lee, 1990; McCaffrey, 1993), the Teflon being deposited within the substance of the lateral thyroarytenoid muscle (Lee, 1990; Wenig *et al.*, 1990).

Complications of Teflon injection can either occur immediately or run a more protracted course, but their incidence is generally low and they have been attributed to overinjection of Teflon or to an improper injection site (Varvares *et al.*, 1995). The acute complications include upper airway obstruction due to an inflammatory reaction to the injected Teflon (Solomons and Livesey, 1990). A chronic inflammatory response to the injected Teflon can give way to a granulomatous foreign body reaction, which can sometimes appear as a solid tumour-like mass (Wilson and Gartner, 1987; Wenig *et al.*, 1990; McCarthy *et al.*, 1993; Wassef *et al.*, 1994; Varvares *et al.*, 1995). It has also been shown that the Teflon paste can migrate in the surrounding tissues, although this is very rare (Ellis *et al.*, 1987; Wenig *et al.*, 1990). Since vocal fold palsies frequently occur in patients with either an established malignancy or a high suspicion of malignant disease, a correct diagnosis of the mass is of paramount importance, to differentiate between a Teflonoma and a malignant neoplasm. On cytological or histological examination of these lesions, a foreign body granulomatous reaction can be seen, with associated birefringent material (Ellis *et al.*, 1987; Wilson and Gartner, 1987; Wenig *et al.*, 1990; Wassef *et al.*, 1994; Kasperbauer, 1995). If no tissue diagnosis can be made, CT scanning can reveal the nature of the lesion, Teflon appearing as a high density area, which is not visible on plain radiography. CT scanning can also show the status of the airway and detect migration of the Teflon or a surrounding granulomatous reaction (Rao *et al.*, 1987).

Summary

We present a patient with a Teflonoma due to migration of Teflon from the paraglottic region to the precricoid tissues following treatment for vocal fold palsy.

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Address for correspondence:
J. A. D. Jol,
Department of Otorhinolaryngology – HNS,
Royal Shrewsbury Hospitals NHS Trust,
Mytton Oak Road,
Shrewsbury SY3 8XQ.