Inflammatory myofibroblastic tumour mimicking a vocal cord polyp

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DESCRIPTION
A 9-year-old child presented with the complaint of voice change of 8 months in duration, which was gradually progressive, and a recent-onset noisy breathing at night noticed by the parents. There were no signs of airway distress or feeding issues on presentation, and the growth of the child was appropriate for her age.

On indirect laryngoscopic examination, a smooth, large polypoidal mass was seen arising from the anterior commissure, partially obscuring the laryngeal airway. Bilateral vocal cords were mobile. The initial impression was that of a benign vocal cord polyp (figure 1).

The rest of the clinical examination was normal.

The patient was then planned for microlaryngoscopic laser-assisted excision of the polyp under general anaesthesia. Intraoperatively, the mass was engaged using a suspension laryngoscope and was seen to arise from the anterior commissure and found to be firm on palpation. It was then removed piecemeal using Potassium Titanyl phosphate (KTP)-532 laser up to its site of origin (figure 2). The specimen was then sent for histopathological examination. On examination, the specimen was found to be a tumour composed of fascicles of spindle cells with elongated nuclei and prominent nucleoli, surrounded by a myxoid stroma with lymphoplasmacytic infiltrates. Then on immunohistochemistry, spindle cells were diffusely positive for smooth muscle actin and anaplastic lymphoma kinase (ALK), and negative for CD34 and desmin, giving a diagnosis of inflammatory myofibroblastic tumour (IMT) of the larynx (figure 3).

Improvement in voice was noted in the immediate postoperative period. Currently the child is on follow-up, and endoscopic evaluation at 4 months showed no evidence of recurrence (figure 4).

IMT, also known as plasma cell granuloma, of the larynx was first described in 1986.1 These are rare tumours commonly found in the lungs, abdomen, retroperitoneum and the extremities, but rarely seen in the head and neck region. Head and neck IMTs account for 14%–18% of all lesions. Only a few cases of laryngeal IMTs have been documented in the literature.2 These tumours, although benign, tend to be locally aggressive, may grow slowly or rapidly, and usually manifest with progressive symptoms referable to mass effect.

Figure 1 Laryngoscopic image showing smooth polypoidal mass arising from the anterior commissure.

Figure 2 Intraoperative: laser-assisted excision of the mass.

Figure 3 Immunohistochemistry (200×) histopathology.

Figure 4 Endoscopic image showing the larynx.
A patient with IMT presents with symptoms similar to any patient with a laryngeal lesion. Hoarseness is the most common complaint, and other symptoms include that of dyspnoea, failure to thrive, or stridor or dysphagia. The appearance of IMT on endoscopy has been described as a smooth, polypoid or pedunculated lesion, firm and fleshy in nature, commonly seen to arise from the vocal cords, although it can affect any subsite of the larynx, thus mimicking a vocal cord polyp, as in our case. The other differential diagnosis to consider is recurrent respiratory papillomatosis or a granulomatous lesion of the larynx.1 2

Although a variety of pathogenic mechanisms have been reported in the literature, the exact aetiopathogenesis still remains controversial. Various possible aetiologies including trauma, Epstein-Barr virus, chromosome translocation (2p23) and the ALK gene have been proposed. The neoplastic theory has been suggested because of tumour recurrence and malignant progression seen in some cases of IMT. ALK 1 and chromosomal rearrangement at chromosome 2p23 and p80 have been suggested to be associated with the neoplastic theory,2 so immunohistochemistry plays an important role in the diagnosis to differentiate it from other tumours.1 2

Surgical excision with good margins is the treatment of choice for this disease, which can be done either endoscopically or by an open approach. Recurrence of the disease is often due to partial or incomplete excision, and a delay in diagnosis can result in airway compromise.3

**Learning points**

- Not all smooth polypoidal lesions of the vocal cords a vocal cord polyp. Benign tumours like Inflammatory myofibroblastic tumours should be considered as a differential diagnosis.
- Early diagnosis with surgical excision is mandatory to prevent airway compromise, as well for symptomatic improvement.
- Immunohistochemistry is necessary to differentiate it from other malignant tumours of the larynx.

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**REFERENCES**