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A case of vascular leiomyoma of the larynx

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Abstract

We present a 68-year-old woman with a vascular leiomyoma of the larynx, a benign tumour that rarely involves that organ. Chief complaints were a feeling of a narrowing of the pharynx and difficulty in breathing in the supine position. A spherical tumour measuring 1.5 cm and covered with normal mucosa was found at the margin of her epiglottis. The patient was administered a general anaesthetic and the tumour was successfully removed via direct laryngoscopy. Histological examination revealed that the tumour lay beneath a layer of stratified squamous epithelium and was encased in a well-defined fibrous capsule. The tumour parenchyma was composed of proliferated fibres that consisted of elongated cells, surrounded by an abundance of blood vessels. Its complete removal is the treatment of choice with care taken to avoid profuse bleeding. Recurrence is rare.

Key words: Laryngeal neoplasms; Leiomyoma, vascular

Introduction

Vascular leiomyoma is a benign tumour that originates in the smooth muscle and rarely involves the head and neck, particularly the larynx. We observed a patient with a vascular leiomyoma at the tip of the epiglottis, and present the clinical picture and histopathological findings.

Case report

The patient a 68-year-old Japanese female, was first seen at our clinic in November, 1987, for a complaint of a feeling of a narrowing of the pharynx, present for the last three months. However, she had no pain, dysphagia or dyspnoea. Her previous medical history revealed the presence of liver cirrhosis with oesophageal varices. Physical examination revealed an absence of cervical lymphadenopathy, and a chest X-ray was normal.

Indirect laryngoscopy revealed the presence of a small round mass about 5 mm in diameter attached to the margin near the tip of the epiglottis. The tumour surface was covered with normal mucosa that showed no dilated vessels. Because the tumour was small, and there were no findings to suggest a malignancy, and because of the presence of liver cirrhosis with oesophageal varices, we decided against surgery. Instead, the patient was followed-up regularly over the next four years.

In July, 1991, the tumour began to enlarge gradually, and the patient felt an increased sense of obstruction of the pharynx. She developed slight difficulty in breathing while in the supine position in February of 1992, and was admitted for surgery in April of that year. Laryngoscopic observation showed that the tumour now measured about 1.5 cm in diameter. It was attached by a thin pedicle to the margin of the epiglottis on the right side. No dilated vessels were observed on the tumour surface (Figure 1). We resected the tumour by direct laryngoscopy under general anaesthesia, making an incision along the edge of the epiglottis. Histological evaluation revealed a vascular leiomyoma (Figures 2 and 3). There was little intraoperative bleeding. The patient's post-operative course was uneventful, and there was no dyspnoea or feeling of obstruction. Indirect laryngoscopy performed at follow-up revealed only a small insignificant scar on the tip of the epiglottis.

Discussion

Benign tumours of the smooth muscle are common in the

TABLE I
NINE PUBLISHED CASES OF LARYNGEAL VASCULAR LEIOMYOMA

Sex	Age	Histological type	Site	Authors
F	40	Vascular	Laryngeal vestibule	Wolfowitz and Schmanan (1973)
F	71	Simple	Subglottis	Karma *et al.* (1978)
M	65	Simple*	Vocal fold	Ebert and Scholz (1979)
M	57	Vascular	False fold	Hashimoto *et al.* (1979)
M	51	Vascular	Arytenoid	Shibata and Komune (1980)
M	52	Vascular	Subglottis	Shibata and Komune (1980)
M	47	Vascular	False fold	Matsumoto *et al.* (1981)
F	11	Vascular	Subglottis	Kaya *et al.* (1990)
F	68	Vascular	Epiglottis	Present case

*Pseudosarcomatous; M: male; F: female.

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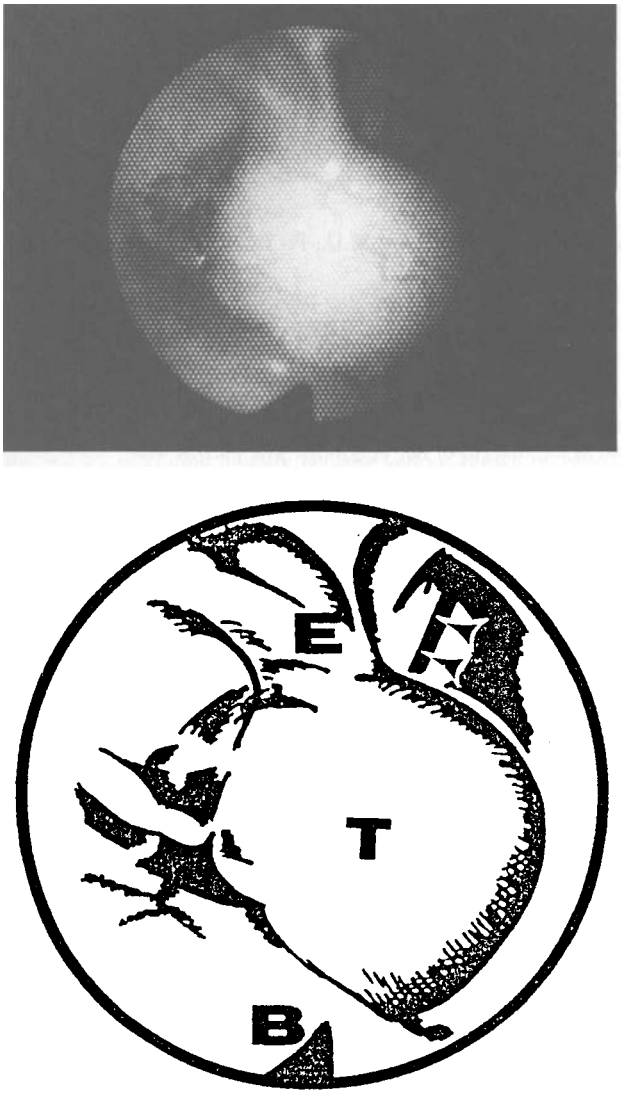

FIG. 1

Photographic view of vascular leiomyoma through a flexible laryngofibrescope. A round mass covered by intact mucosa is seen on the epiglottis. E: epiglottis; T: tumour; B: tongue base. Arrowheads indicate the glottis.

uterus, alimentary tract and skin. Of the 7748 leiomyomas of all body sites investigated by Farman (1975), 7377 (95 per cent) occurred in the female genital tract. Leiomyomas are extremely rare in the upper respiratory tract with only one case of laryngeal leiomyoma reported in his series. The classification of soft tissue tumours by the World Health Organization recognizes three types of benign smooth muscle tumours: leiomyoma (simple leiomyoma), angiomyoma (vascular leiomyoma) and epithelioid leiomyoma (bizzare leiomyoma or leiomyoblastoma).

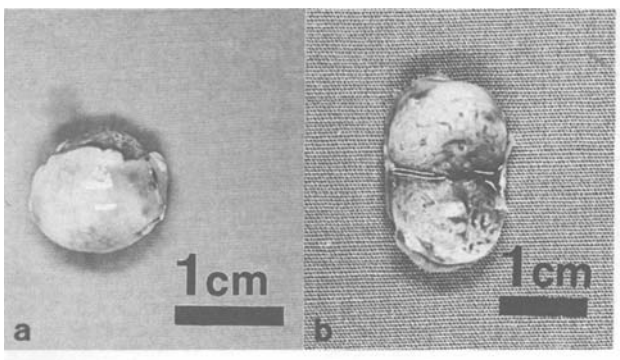

FIG. 2

Gross view of extirpated tumour (1.5 × 1.8 × 2 cm): (a) it is greyish-white, elastic, firm and parenchymal; (b) cross-section of tumour showing it is composed of fibrous and solid tissue, wrapped in a distinctive fibrous capsule. The latter is covered with stratified squamous epithelium.

The majority of the eight cases of laryngeal leiomyoma reported in the recent literature were vascular leiomyoma (Table I). The pathogenesis of benign smooth muscle tumours is unknown. Duhig and Ayer (1959) who investigated 61 cases of vascular cutaneous leiomyomas, thought that they began as vascular hamartomas. They suggested that proliferation of smooth muscle within a haemangioma would produce an angiomyoma or a vascular leiomyoma, and that further proliferation could produce a simple leiomyoma. In the investigation by Farman (1975), simple leiomyomas tended to occur in slightly younger patients than did vascular leiomyomas, but suggested that benign smooth muscle tumours did not seem to be derived from vascular hamartomas. An etiological role of oestrogen has been considered. Fibroids of the uterus can regress or atrophy following the menopause, suggesting a hormonal role in the etiology of benign smooth muscle tumours in that organ. However, oestrogens appear to have little influence on leiomyomas outside the uterus, in that there is no female dominance of such tumours. The recommended treatment is a complete surgical resection performed by either an external incision via the lateral or anterior cervical region, or per os. Profuse bleeding has been reported during and after surgery (Matsumoto *et al.*, 1981). A pendulated tumour, as found in our patient, can be safely resected via a laryngoscope. In cases of tumours near the vocal fold or in the subglottic area, the approach should be external following intubation.

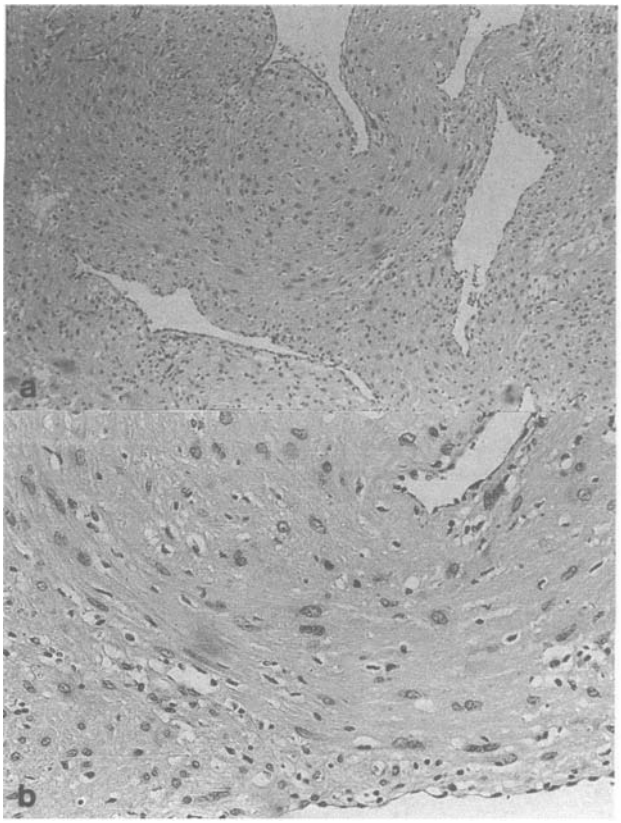

FIG. 3

Photomicrographs of tumour: (a) whorls of smooth muscle fibres are seen surrounding the vessels which are abundant; (b) the cytoplasm of the tumour cells has a fibrillar appearance. The tumour is formed by solid sheets and strands of fusiform cells. (The nuclei of the proliferated cells appeared essentially equal, with no cellular atypia or mitoses observed).

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