CASE REPORT

Laryngeal verruca vulgaris

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SUMMARY

Laryngeal verruca vulgaris is a rare disease of the larynx that is easily misdiagnosed as other laryngeal lesions. This article reports three patients with laryngeal verruca vulgaris and discusses the differential diagnosis of laryngeal verrucous lesions to avoid over treatment.

BACKGROUND

As these are the first three cases of laryngeal verruca vulgaris (LVV) in our clinic, we believe they are important.

CASE PRESENTATION

Introduction

Warts caused by human papillomavirus (HPV) appear in various forms on different parts of the body. They include common warts (verruca vulgaris); they are plane or flat, coalesced mosaic, filiform, periungual, anogenital and oral warts, as well as respiratory papillomas.¹ Verruca vulgaris can occur anywhere on the skin, and present as one or more small, firm, elevated and non-tender growths.² It can rarely be localised in the oral cavity and larynx, and in these cases it can be difficult to distinguish from verrucous carcinoma of the oral cavity.

This article reports three patients with LVV, a very rare disease of the larynx. The English literature contains only three publications on LVV, including nine patients in total. Two were misdiagnosed as squamous papilloma and verrucous carcinoma, and one underwent a needless hemilaryngectomy.³ This article is intended to remind clinicians to consider LVV, which is rarely encountered in practice, because of the possibility of misdiagnosing it as verrucous carcinoma.

Case reports

First case

A 50-year-old man presented to our otorhinolaryngology department with a 1-year history of a sore throat, and no other symptoms. He had a 30 pack/year smoking history and did not consume alcohol. He had no personal or family history of warts on the skin or mucosa. A stalked, polypoid, whitish, 1×1 cm mass was seen on the left aryepiglottic fold at endoscopy (figure 1). There was no abnormality of the other laryngeal structures. The lesion was excised totally from the stalk under local anaesthesia. The whitish 1×0.8×0.3 cm mass was polypoid. We marked the free and basal edges to orient the pathology. The final histopathological examination of the excised mass was reported as verruca vulgaris. Histologically, the lesion was keratoacanthotic with papillary configurations and a

Figure 1 A stalked, polypoid, 1×1 cm whitish mass on the left aryepiglottic fold (70° endoscopic view).

prominent granular layer (figure 2). There was no recurrence or postoperative complications in the first follow-up year.

Second case

A 54-year-old man presented with a 2-month history of progressive hoarseness. He had no other symptoms. He had a 6 pack/year smoking history and did not consume alcohol. He had no personal or family history of warts on the skin or mucosa. We noted a whitish vegetative mass on the anterior two-thirds of the left vocal cord at endoscopy (figure 3). There was no extension to the other cord or subglottic area. We performed a microlaryngeal surgical excision under general anaesthesia. The final histopathological examination of the excised mass was reported as verruca vulgaris, and there was no recurrence or postoperative complication in the first follow-up year (figure 4).

Figure 2 Keratoacanthotic and papillary configurations with healthy basal membrane (H&E/×4).

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Figure 3 A whitish vegetative mass on the anterior 2/3 of the left vocal cord.

Third case

A 72-year-old man presented with a 6-month history of hoarseness. He had no other symptoms. He had a 25 pack/year smoking history and consumed alcohol. Like the previous patients, he had no personal or family history of warts on the skin or mucosa. An endoscopic examination revealed irregularity of the right vocal cord, and a whitish mass localised at the left site of the epiglottis. Under general anaesthesia, we excised the epiglottic mass and performed a punch biopsy of the irregular vocal cord with microlaryngeal surgery. There were no post-operative complications. The histopathology was reported as a verruca vulgaris for the whitish mass near the epiglottis and atypical hyperplasia for the irregularity of the right vocal cord. There was no recurrence in the first follow-up year for the verruca vulgaris. The cord lesion is still being followed for possible malignant transformation.

DISCUSSION

HPVs are small DNA viruses with 7900 nucleotides in their genomes and more than 200 different genotypes.^{4 5} They are mostly transmitted horizontally, although it is rarely possible to get viruses via a maternal cervical infection at birth or non-sexual fomite transfer, such as by sharing a moist towel.⁴

HPV DNA has been detected in benign (papillomatosis), indolent (verrucous carcinoma) and malignant (squamous cell carcinoma) disorders of the larynx.⁵ Some studies have demonstrated HPV in benign laryngeal lesions, such as polyps, Reinke's oedema, leukoplakia, lichen planus, and even the

normal mucosa of the mouth.⁶ A wide range of HPV prevalence has been reported in normal oral cavity mucosa, from 0% to 70%.⁵ Therefore, the transmission of HPV is not sufficient to cause disease. Immunodeficiency and cytomegalovirus, Epstein-Barr virus (EBV) and herpes virus infections have been investigated as possible reasons for this disease.⁶

HPV is related to various skin and mucosal lesions, such as verruca vulgaris, verruca planus, verruca plantaris and condyloma acuminata.³ Verruca vulgaris presents as one or more small, firm, elevated, non-tender growths anywhere on the skin.⁴ It can also be localised to the mucosal membranes, especially the lips and rarely the oral cavity and larynx.²

To the best of our knowledge, there are only three publications on LVV. In the first publication, two of seven patients were misdiagnosed with squamous papilloma and verrucous carcinoma, respectively.³ The first patient was treated with local excision, whereas the second underwent an unnecessary hemilaryngectomy. All reported patients except one were male. As our patients were all male, this illness appears to predominate in males.

The differential diagnosis of verruca vulgaris includes ordinary keratosis, squamous papilloma, verrucous hyperplasia and verrucous carcinoma.³ The histopathological difference between verruca vulgaris and ordinary papillary keratosis is that verruca vulgaris exhibits koilocytosis, and LVV exhibits various degrees of atypia/dysplasia in contrast to papillary keratosis.² Papillomas appear pink on laryngoscopic examination.² LVV and verrucous hyperplasia carcinoma occur in adults in the fifth decade and show male predominance.² In contrast to LVV, verrucous hyperplasia and verrucous cancer lack the prominent granular cell layer and large keratohyalin granules.³ Additionally, the rete ridges of LVV tend to be narrower, and there is often considerable lamina propria between them, in contrast to verrucous hyperplasia carcinoma with closely packed rete ridges.³ Keratohyalin granules are sparse to absent in verrucous carcinoma, and while koilocytotic cells can be present in verrucous carcinoma, they are decidedly less common than in LVV. Histopathologically, verrucous carcinoma exhibits bullous expansion of the advancing margin of epithelium. If there is no stromal invasion, it is considered to be LVV (figure 2) (as in our case), while stromal invasion indicates verrucous carcinoma.²

LVV and verrucous hyperplasia can be distinguished from verrucous carcinoma by the depth of invasion. Therefore, it is very important to help the pathologist orient the mass. We emphasised the orientations of the masses in our patients, which might have prevented misdiagnoses.

All of the reported patients with LVV were treated with local surgery. In one patient misdiagnosed with squamous papilloma, the LVV recurred twice. It was probably excised insufficiently. There has been no recurrence in our patients. Considering our and published cases, local excision of these lesions appears to be sufficient for treatment.

Figure 4 View of the second case 3 months postoperatively.

Learning points

Laryngeal verruca vulgaris (LVV) is a rare disorder of the larynx. If we consider this disease in the differential diagnosis of laryngeal lesions and consult with the pathologist, we can easily diagnose and treat it with local excision. In contrast to previous reports, LVV can be seen in different parts of the larynx except the true vocal cords.

Competing interests None declared.

Patient consent Obtained.

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