

## Verrucous carcinoma of the larynx presenting as a hairy lesion

A 68-year-old man presented in our emergency ear, nose, and throat (ENT) clinic with a 2-week history of gradually progressive dyspnea. He also reported a 10-year history of hoarseness. His medical history was unremarkable and he was a chronic (40-pack years) smoker. Fiberoptic laryngoscopy revealed an exophytic, grayish, papillomatous, hairy lesion in the glottis affecting both vocal cords [Figure 1]. Computed tomography (CT) scan of the neck showed an exophytic growth occupying both vocal cords. We performed a tracheostomy to secure his airway, followed by microlaryngoscopy with biopsy and subsequent excision of the lesion [Figure 2]. Histological examination showed a squamous cell neoplastic process with exophytic growth pattern, elongated papillae, marked surface keratinization (church-spire keratosis), and bulbous rete "pushing" into the underlying stroma [Figure 3]. There was very mild nuclear atypia and few mitoses in the basal layers. The diagnosis was of a verrucous carcinoma (VC) with few small foci of microinvasion [Figure 4]; extensive leukoplakia was also present. CT scan of the thorax, ultrasound of the liver, and bone scan were negative for distant metastasis. A total laryngectomy and a bilateral selective neck dissection were performed 6 days later. The patient is disease free at a 3-year follow-up.

VC is a clinical variant of well-differentiated squamous cell carcinoma (SCC). VC is now known to arise in a variety of epithelial sites, most often the oral mucosa, followed by the larynx and the nasal fossae. It is a rare tumor that is strongly associated with smoking and alcohol use<sup>[1]</sup> and represents 1-3.9% of all primary laryngeal SCC.<sup>[2]</sup> The role of human papilloma virus in the pathophysiology and clinical behavior of VC is still under debate.<sup>[3]</sup>

These neoplasms are slow growing tumors that most often involve the glottic region<sup>[2]</sup> and are usually seen in men in their 6<sup>th</sup> and 7<sup>th</sup> decade of life.<sup>[1]</sup> They are locally invasive and can gradually destroy the architecture of the larynx.<sup>[4]</sup> Longstanding hoarseness is the most common presenting symptom, while respiratory obstruction and dysphagia may occur in larger tumors; an emergency tracheostomy is rarely required.<sup>[2]</sup>



Figure 1: Laryngeal findings at the time of the first operation



Figure 2: The lesion after being removed from the glottis

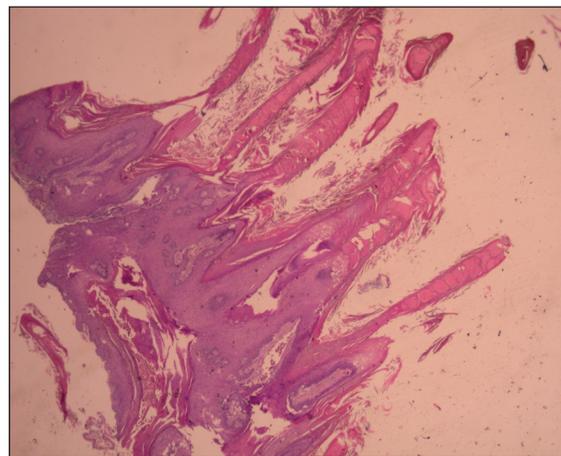
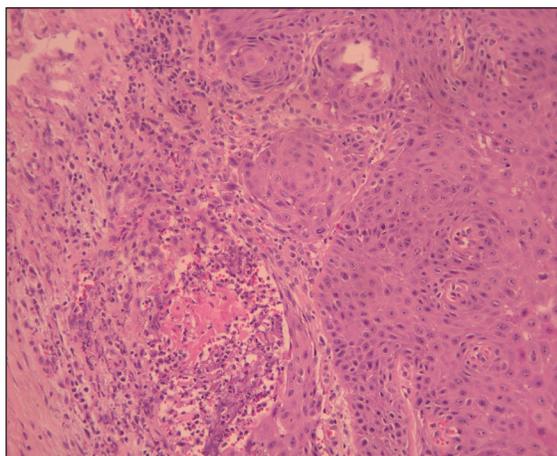


Figure 3: Elongated papillae with marked surface keratinization (church-spire keratosis) (hematoxylin and eosin (H and E), low magnification)

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**Figure 4:** Small foci with microinvasion (Hematoxylin and eosin stain, moderate magnification)

There are two types of VCs: The classic and the hybrid. The more common classic variant is a histologically uniform tumor that may be locally aggressive, but does not metastasize. The hybrid VC in contrast, is a mixed tumor composed of both verrucous and conventional squamous cell carcinoma that is capable of metastasizing.<sup>[1]</sup> Clinically, VC usually presents as a broad-based, shaggy, white, granular, nonulcerated exophytic mass; less often, the surface has a less “warty” appearance, and rarely it may even appear relatively smooth.<sup>[1,3]</sup> Presentation as a hairy tumor appears to be uncommon.<sup>[5]</sup>

Differential diagnosis of a hairy laryngeal lesion includes mainly papillary squamous cell carcinoma, which shows more atypical cytological features and verruca vulgaris, which do not show any atypia or microinvasion and characteristically shows layers of parakeratotic cells with large keratohyaline granules. Squamous cell papillomas show typical papillomatous growth with only limited keratinization. Hairy leukoplakia does not show the typical elongated epithelial papillae and almost all patients have immunodeficiency, commonly acquired immunodeficiency syndrome (AIDS).

Recommended treatment for VC is surgery, resulting in local control rates ranging from 77 to 100%.<sup>[6]</sup> When diagnosed early, these tumors can usually be treated by endoscopic excision.

More extensive procedures may be necessary if these tumors have remained undetected for a long time.<sup>[4]</sup> In patients with no evidence of hybrid tumor, neck dissection is not indicated even when enlarged and tender lymph node(s) can be palpated; cervical adenopathy associated with VC usually represent reactive changes and not metastatic disease.<sup>[3,6]</sup> Hybrid tumors should be treated as comparably staged invasive squamous cell tumors. When identified early and appropriately treated, VC rarely recurs, has an excellent prognosis, and does not affect overall survival.<sup>[4]</sup>

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