

Verruca Vulgaris of Nasal Vestibule: A Rare Cause of Nasal Obstruction

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1. Abstract

Various types of diseases can involve the nasal vestibule. Diagnosis and treatment of nasal vestibular mass are often diverse and challenging due to the anatomical features of the nasal vestibule. Verruca vulgaris is formed at the nasal vestibule rarely. Verruca vulgaris is featured that it is the multiple-shaped protruding mass with disfigurement. For accurate treatment of verruca vulgaris, it should be differentiated with other mass-forming diseases. The differentiation is needed because appropriate treatment can be provided based on the diagnosis. This case represents a case of verruca vulgaris of nose as a rare cause of nasal obstruction.

2. Introduction

Nasal vestibule is the most anterior part of the nasal cavity. It is lined with keratinizing squamous epithelium and contains different components from the nasal cavity proper such as vibrissae, sebaceous glands, and sweat glands [1]. There are diverse occurrence of inflammation, benign neoplasm and malignancy which is located in this structure. Verruca vulgaris, also known as common skin warts, can be associated with Human papilloma virus (HPV) [2]. Diagnosis is usually clinical with the appearance of smooth, flesh-colored papules that may transition into dome shaped, hyperkeratotic growths with thrombosed capillaries appearing as red dots [3]. Treatment for verruca vulgaris typically begins with li-

quid nitrogen as a form of cryotherapy, electrosurgery, laser ablation, or topical imiquimod [4]. This case represents a case of verruca vulgaris of nose as a rare cause of nasal obstruction.

3. Case Presentation

The patient was 16 male patient who visited the outpatient clinic department (OPD) complaining of nasal obstruction of right nasal cavity. The patient had no underlying systemic disease and previous nasal trauma/operation history. Also, he did not experience viral infection recently. In the OPD, he did not complain other symptoms such as rhinorrhea and itching sensation related to nose. The author checked him evaluating with endoscopy. Endoscopy represented that there was 0.5 X 0.7 cm² ciliated multiple hair-like fungating mass of right nasal vestibule upper part connected to nasal column (Figure 1.). At first, the author treated him doing medical treatments (oral antibiotics, oral anti-inflammatory agent and local antibiotics ointment) during 4 weeks. At that time, the mass did not increase in size and disappear. So, in consultation with the patient, endoscopic mass removal under local infiltrative anesthesia was performed. Doing the surgery, the mass lesion was removed and mitomycin was applied to the removed lesion (Figure 2). The pathologic finding of mass was verruca vulgaris. No recurrence of mass lesion was noted during a 4-month postoperative follow-up periods.



Figure 1: Endoscopic finding. Verruca vulgaris is presented at the right nasal vestibule.



Figure 2: Endoscopic Postoperative Finding.

4. Discussion

Nasal vestibule is located in the most anterior portion of each nasal cavity. This is a pear-shaped space extending from the nares anteriorly to the limen nasi posteriorly, a distance of about 2_{cm} [5]. The vestibule is demarcated by hair follicles and sebaceous glands, and sweat glands. The skin overlies a bony and cartilaginous framework which supports its shape [5]. The framework of nasal vestibule is formed by the lateral crus of the greater alar cartilage laterally, the septal cartilage and the medial crus of the greater alar cartilage medially. And, floor of nasal vestibule connects to the nasal process of the maxilla. Lymphatic drainage of the nasal vestibule is primarily to the submandibular lymph nodes and the drainage is continuous with that of the external nose and upper lip. This drainage route leads to bilateral metastasis, in the case of malignancy. Verruca vulgaris, commonly known as a common wart, is one of the most recognizable skin growths and is a benign squamoproliferative lesion caused by HPV [6,7]. It can occur on any epidermal surface of the body but is seen most frequently on

the hands and knees. Most have a benign clinical course and are likely to resolve spontaneously in immune-competent patients. Warts are widespread in the worldwide population. Although the frequency is unknown, warts are estimated to affect approximately 7-12% of the population [8]. Verruca vulgaris can be found at any age, it is usually more frequent during childhood and adolescence. In school-aged children, the prevalence is 10-20% [9]. Also, in the case of immunosuppressed patients, verruca vulgaris may occur because of immunity imbalance. Verruca vulgaris grows up in volume diversely and is very often recurred. Characteristic appearance of verruca vulgaris is the multiple-shaped protruding mass with disfigurement. Treatment of verruca vulgaris is not certain recently. Until recent studies, diverse treatments are available, for example, topical ointments, photo-dynamic therapy, intralesional injections, but representative treatment is not in consensus [10-12]. Surgical treatment options are cryosurgery, laser-therapy, and electrodesiccation/curettage [1]. According to guidelines of the British Association of Dermatologists, the recommended treatments for cutaneous facial warts are salicylic acid ointment, cryotherapy, curettage with light cautery, and CO₂ laser [13]. For the selection of surgical approach option, there are some points of consideration such as occurrence site. Namely, the surgical excision on facial warts should be deliberate due to the risk of scarring. Also, the use of cryotherapy has the considerable point because the approach leads to hypo- and hyperpigmentation. Owing to the diseases' similarity of external appearance, the diagnosis of verruca vulgaris in the OPD is difficult. So, the pathologic evaluation is essential to diagnose it. Verruca vulgaris is differentiated to squamous papilloma, verrucous hyperplasia, keratosis of uncertain significance, proliferative verrucous leukoplakia, pseudoepitheliomatous hyperplasia, and papillary squamous cell carcinoma. Furthermore, verruca vulgaris in the nasal vestibule must be distinguished from Schneiderian papilloma, which occurs in the ciliated respiratory mucosa that lines the sino-nasal tract, the so-called Schneiderian membrane [1]. Schneiderian papillomas are classified into three morphologically distinct papillomas: fungiform, inverted, and oncocytic [15]. In contrast to squamous papilloma, where the squamous epithelium proliferates, a Schneiderian papilloma is a tumor of the respiratory epithelium although squamous metaplasia is common [1]. In contrast to a squamous papilloma, the fungiform and inverted papillomas have malignant potential [15]. The fungiform papilloma, the fungiform tends to occur on the lateral nasal wall [1]. Pseudoepitheliomatous hyperplasia (PEH) is a benign condition that is characterized by reactive proliferation of the epidermal and adnexal epithelium [16]. PEH has diverse characteristics which are well-demarcated plaque or nodule with variable degrees of scarring and crusting. Microscopically, PEH consists of elongated, thick downward projections of the epidermis into the dermis [16]. Trichofolliculoma is one of a few hair follicle tumors that usually feature hair follicle tissue; this typically occurs on the

faces of adults [17] Microscopically, trichofolliculoma contains a dilated follicle or cystic lesion lined by infundibular, stratified squamous epithelium and opening to the skin surface, and the lesion contains hairs [18]. And because there is a case report of transformation from verruca vulgaris to squamous cell carcinoma, a distinction between benign and malignant lesions is significant [19].

5. Conclusion

Various types of mass lesions can involve the nasal vestibule. Verruca vulgaris is formed at the nasal vestibule rarely. Verruca vulgaris is the multiple-shaped protruding mass with disfigurement. It is important to differentiate between verruca vulgaris and other mass-forming diseases for appropriate treatment of verruca vulgaris.

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