Squamous cell carcinoma of the nasal vestibule presenting as chronic vestibulitis

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INTRODUCTION

Nasal vestibulitis is a term used to describe infection of the anterior nares, with reddening on the outside of the nose tip accompanied by tenderness and occasionally boil formation. Treatment consists of nasal hygiene and use of topical antibiotics. A case of chronic vestibulitis is described, which failed to respond to several courses of antibiotic topical treatment and ultimately developed neoplastic transformation. Treatment consisted of excision biopsy with satisfactory cosmetic and oncological results.

DISCUSSION

The skin of the nose and face may be affected by common typical skin diseases which affect the rest of the skin, such as impetigo, acne, rosacea and lupus erythematosus. There are other important acute and chronic diseases which include nasal eczema, folliculitis of the nasal vestibule, nasal furuncle and non-specific infective nasal vestibulitis. Clinical features include induration, excoriation and painful fissures affecting the nasal vestibule in the acute form, and persistent painful fissures in the chronic form. Treatment consists of topical antibiotics to eliminate local infection.

The relationship between chronic vestibulitis and squamous cell carcinoma of the nasal vestibule has not been widely reported in the general medical literature. This article emphasizes this relationship at a primary care level when the condition can be diagnosed early and the chances of curative treatment are high.

The nasal vestibule is a pear-shaped space that forms the entrance to the nasal cavity. It is lined with skin containing sebaceous glands and hair follicles. It is surrounded laterally by the lower alar cartilage and extends posteriorly to the limen nasi, which marks the mucocutaneous junction approximately 2 cm from the entrance. The medial wall of the vestibule is the columella, which is formed by the medial wing of the alar cartilage and is separated from the cartilaginous septum by a membranous septum. The floor of the vestibule is 1 cm long and is formed by skin overlaying the upper part of the hard palate (Goepfert and Guillamondegui, 1974; Patel et al, 1992).

The nose is the most frequent site of primary skin cancer and first for recurrence (Miller and Weinstock, 1994). Squamous cell carcinoma of the nasal vestibule is rare, representing less than 1% of head and neck malignancies (Patel et al, 1992). Basal cell carcinoma, however, is nine times more frequent than squamous cell carcinoma

CASE REPORT

A 62-year-old male smoker was referred to the department of otorhinolaryngology in January 1998. He described a 6-year history of intermittent soreness and scabbing of the right nostril, which was treated with topical antibiotics on three occasions in the same department. Previous medical history included several dermatology visits in 1994, during which the diagnosis of psoriasis and recurrent nasal furunculosis had been made. No history of irradiation to the face was present.

Examination revealed a 1 x 1 cm area of ulceration on the lateral aspect of the right nasal vestibule (*Figure 1*) in a superimposed picture of chronic rhinitis. Examination of the throat, ear, larynx and neck revealed no other abnormality. Haematological, biochemical and chest radiology assessments were all normal. Microbiology studies of the area did not grow any organisms.

Biopsy and frozen section analysis revealed a superficially invasive squamous cell carcinoma arising in an area of carcinoma in situ. Subsequent excision biopsy of the affected area with wide margins (*Figure 2*) revealed no evidence of residual carcinoma. The patient remains well and disease free 5 years later.

Figure 1. Right nasal vestibule demonstrating ulcerated skin lesion.

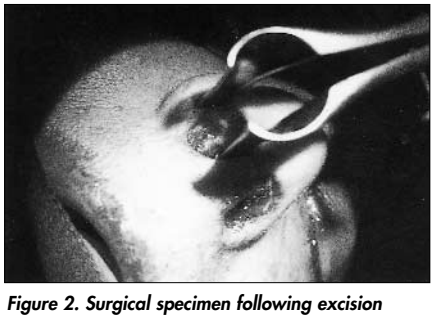
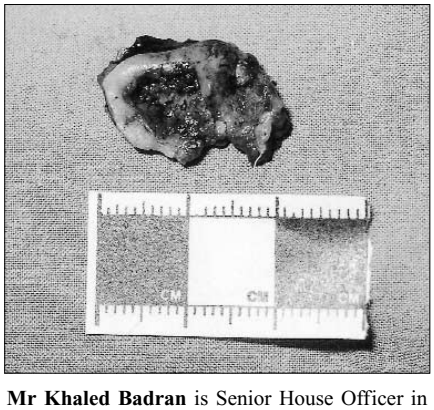


Figure 2. Surgical specimen following excision biopsy of the lesion.



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on the midface region (Conley, 1974). Other tumours that involve the nasal vestibule are squamous or basal cell epitheliomas, melanomas and anaplastic carcinomas.

Factors predisposing to carcinoma of the nasal vestibule include moderate to heavy cigarette smoking, exposure to petroleum products, prolonged exposure to wood dust, and chemicals used in nickel refining and leather works. Sun exposure does not appear to play a role, perhaps because the area is shielded from the sun (Beatty, 1982). Patients are usually males with an average age of 60–65 years (Goepfert and Guillamondegui, 1974).

The rarity of this tumour results in a low index of suspicion, which may lead to the wrong diagnosis. The signs and symptoms of squamous cell carcinoma of the nasal vestibule are nonspecific and mimic those of rhinosinusitis, which leads to delay in diagnosis (Beatty, 1982). Lesions in this area are frequently mistaken for crusting after local trauma of the furuncle. In a review of 14 cases of squamous carcinoma of the nasal vestibule, Samaha et al (2000) reported a patient who was initially diagnosed as having simple crusting of the nasal vestibule, but later presented with squamous cell carcinoma with cartilage and neural invasion.

Nasal tumours are usually limited at presentation, most of them being less than 5 cm in diameter with no evidence of cartilage or bone involvement. The incidence of a clinically positive neck lymph node is between 5 and 15% at diagnosis; another 10% will develop metachronous lymph node metastasis during the course of the disease (Goepfert and Guillamondegui, 1974). Nasal tumours have a different behaviour from cancers arising in the nasal cavity or paranasal sinuses, or skin cancer of the external nose, and are recognized as a separate entity by virtue of the presentation, history and prognosis (Mendenhall and Patsons, 1984; Wong and Cummings, 1988).

Prognosis and recurrence rate is dependent on tumour site. Columellar cancers have the poorest prognosis of any other nasal skin location and septal origin is associated with higher recurrence rates. Several factors contribute to choosing the optimal therapy for nasal tumours, such as type of skin cancer, location, size, grade, duration and patient desire. Treatment includes routine surgical excision, curettage, electrodissection, radiation therapy, or nitrogen cryotherapy and Mohs micrographic surgery. The latter is a tissue-sparing technique of skin cancer extirpation developed by Frederic Mohs in the 1930s. It involves careful mapping and orientation of the excised tissue, particularly when the lesion is aggressive, invading the bone or located in a narrow space (Mohs, 1978).

Some authors agree that local resection and radiotherapy will yield similar cure rates for early lesions (Deutch, 1966). However, the authors recommend local resection with free excisional margins on frozen section, followed by radiotherapy if there are doubtful resection margins on final histological assessment.

Surgery has always been the favoured option for patients with very early cancers that can be easily resected with good cosmetic outcome, for advanced cancers where the likelihood of cure with radiotherapy is low, and for salvage of patients with recurrence after radiotherapy. For more advanced lesions radical resection surgery in the form of septectomy, partial or total rhinectomy, partial maxillectomy, or base skull resection, with or without neck dissection, is recommended aiming to achieve tumour-free margins followed by radical radiotherapy.

Most authors agree that there should be no elective treatment to the neck for patients with N0 neck disease. Columellar cancers have the poorest prognosis of any other nasal skin location because of their tendency to spread in all three dimensions and into the lymph nodes of both sides of the neck with little resistance offered by the scant soft tissue envelope. In this case the lesion was confined to the lateral aspect of the nasal vestibule instead of the columella, making surgical resection more oncologically and cosmetically sound.

For recurrent lesions after radiotherapy, wide-field three-dimensional surgical resection with adequate margins and without primary reconstruction is the treatment of choice, so that further recurrences may be detected early. Secondary reconstruction or the application of tailor-made facial prostheses follow the management for these conditions once the surgical defect is tumour free (Conley, 1974).

CONCLUSIONS

Squamous cell carcinoma of the nasal vestibule should be considered in cases of chronic vestibulitis that do not respond to standard antibiotic topical treatment. The rarity of this tumour results in a low index of suspicion, which may lead to the wrong diagnosis. Management of these cases involves urgent referral to a department of otorhinolaryngology for biopsy of the affected area.

If neoplastic transformation occurs, surgery is the treatment of choice. If this tumour is diagnosed early, the prognosis is very good. If diagnosed late, the prognosis becomes guarded and subject to very radical and aggressive surgery. HM

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