

Quasineoplastic Lesion in the Nasal Cavity Caused by a Dental Implant

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Tumors of the nasal and paranasal sinuses are uncommon, but some other diseases can mimic them. A 61-year-old woman presented at our clinic with a mass lesion in the right nasal cavity. After laser excision of the tumor, an implant penetrating into the middle of the tumor was observed. The pathology findings revealed acute and chronic inflammation. No malignancy was found and the patient was recommended to the regular outpatient department for follow-up.

Key words: quasineoplastic lesion, dental implant

INTRODUCTION

The complication rate for endosseous implants is relatively low but it is generally greater in the maxilla than in the mandible. The density of the maxilla and the limited height of the bone may be responsible for the penetration of implants. These implants act as foreign bodies and can cause serious ongoing complications. In this article, we report a case in which an implant perforated the nasal floor, leading to a quasineoplastic lesion of the nasal cavity.

CASE REPORT

A 61-year-old woman visited our clinic with a two-year history of purulent discharge from the right side of her nose. A diagnosis of chronic paranasal sinusitis had been made by her family doctor. In the previous two months, the patient had noticed blood-tinged rhinorrhea. She had received an upper dental implant in 1994. A clinical examination revealed a smooth, red sessile mass, about 1.0 cm in diameter, in the anterior part of the right nasal cavity (Figure 1-A). This mass was firm and painless on probing

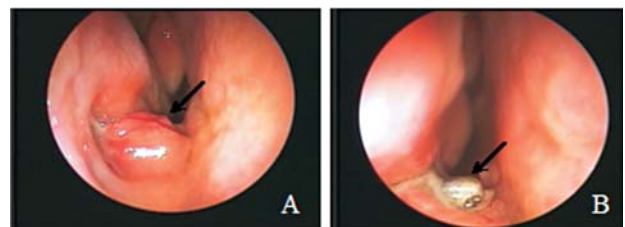


Fig. 1 (A) A red smooth sessile mass (arrow) in the anterior part of right nasal cavity. (B) A penetrating implant (arrow) in the middle of the tumor could be seen.

but bled easily when touched. Computed tomographic scans showed a hyperdense lesion rising from the nasal floor (Figure 2). After resection of the tumor by endoscopic laser excision, an implant penetrating the middle of the tumor was observed (Figure 1-B). The pathology findings revealed acute and chronic inflammation, with the stroma infiltrated by a mixture of polymorphonuclear cells, plasma cells, and proliferated vessels (Figure 3-A), and transformation of the columnar epithelium to squamous epithelium in the mucosal lining (Figure 3-B). One month after surgery, the patient was free of any symptoms or signs.

DISCUSSION

Slight perforations of the sinus membrane during the placement of an implant usually heal spontaneously and are covered by normal mucoepithelium with no adverse effects¹. However, implants that penetrate the mucosa by more than 4 mm may not be fully covered² and may give

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Fig.2 The CT scans showed a hyperdensity lesion (arrow) arising from the nasal floor.

rise to rhinosinusitis³ because debris can accumulate on the exposed implant, inducing inflammation. Furthermore, the normal passage of air through the nose, which is important for the maintenance of the normal mucosal structure and function, can be impeded by exposed implants^{4,5}. The increased secretion of mucous and crust formation can lead to the development of rhinitis or granuloma when nasal clearance is disturbed by an implant that blocks the mucociliary pathway. In conclusion, excessive extension of dental implants into the nasal cavity has adverse effects on the structure and function of the nasal mucosa and can cause quasineoplastic lesions.

Neoplasms in the nasal and paranasal sinuses are rare. Commonly cited data indicate that these neoplasms account for 0.2%-0.8% of all carcinomas and for 3% of those

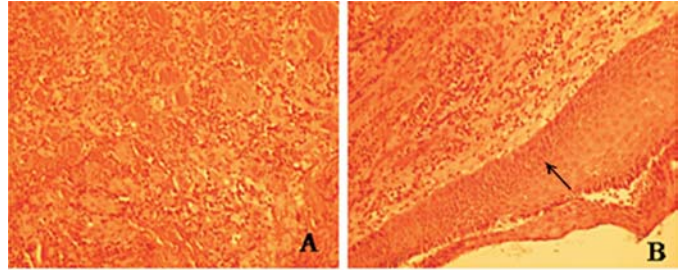


Fig. 3 Histopathologic feature of the tumor. (Hematoxylin-Eosin stain, 200X) (A) The stroma infiltrated by a mixture of polymorphonuclear cells, plasma cells, and proliferated vessels. (B) And the mucosal lining featured squamous metaplasia (arrow).

occurring in the upper aerodigestive tract. However, some other diseases can mimic them. Because the placement of dental implants has increased in recent decades, the possibility of an exposed implant should be taken into consideration if a mass is found on the nasal floor.

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