

Primary Nasal Septal Squamous Cell Carcinoma

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Abstract

Nasal cavity and paranasal sinus malignancies constitute only 3% of all head and neck carcinomas. Malignancies of the nasal septum are rare and comprise 9% of sinonasal malignancies. In sinonasal carcinomas, squamous cell carcinoma is the most common type of malignant tumor. Here, a 64-year-old man with a nasal septal squamous cell carcinoma is presented in the context of literature information.

Keywords: Nasal septum, squamous cell carcinoma, surgical treatment

INTRODUCTION

Nasal cavity and paranasal sinus malignancies constitute only 3% of all head and neck carcinomas (1). Although rarely seen, the nasal septum malignancies constitute 9% of sinonasal malignancies (2). Most of the nasal septal malignancies originate from the caudal end of the septum, and the most common pathological diagnosis is squamous cell carcinoma (3). Cigarette smoking and tobacco smelling are the most frequent risk factors for the etiology of nasal cavity tumors (4).

In this case report, we present a 64-year-old male patient who referred to our clinic with the complaints of nasal obstruction and headache. The patient was diagnosed with nasal septal squamous cell carcinoma.

CASE PRESENTATION

A 64-year-old male patient presented to our clinic with complaints of increasing nasal obstruction for three years and headache that had started in the previous year. Upon examination, a pink-red 4×4 cm vegetative mass obstructing both nasal passages and originating from the septum was detected. A computed tomography (CT) of the paranasal sinus revealed approximately 40×27×42 mm³ soft tissue mass. Furthermore, the mass that was heterogeneously contrasted after intra venous contrast medium (IVCM) was destructing the medial section of the nasal bones in the superior–anterior area of the nasal region; extending to the intracranial region after destructing the frontal sinus floor-crista galli in the superior area and creating a fovea ethmoidalis defect; extending and destructing the ethmoid cells in the posterior region; destructing the inferior maxillary bone and anterior hard palate; and obliterating the anterior sections of medial-superior nasal meatus bilaterally but apparently on the left side (Figure 1).

Magnetic resonance imaging (MRI) revealed a large mass lesion localized at the anterior one third of the septum, expanding the septum and extending to the brain parenchyma after creating defect in the superior fovea ethmoidalis. Moreover, the mass was hypointense in the short time inversion recovery STIR and T1A images and caused heterogeneous erosion in the hard palate contrasted after IVKM (Figure 2).

A punch biopsy was then performed and the pathology was reported as squamous cell carcinoma; operation was recommended for the patient. A lateral rhinotomy incision was made on the right side of the patient and the ridge of the nose was elevated. When entered into the nasal cavity, it was seen that the tumor originated from the septum, full filled the right nasal passage, reached the left nasal passage, extended to the nasal spine in the inferior side, started 1 cm behind the membranous septum in the anterior side, and progressed to 1 cm ahead of the choana. The right lateral nasal wall was deformed due to the tumor and the tumor extended to the nasofrontal suture line (Figure 3).

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Figure 1. Coronal computed tomography imaging of the patient



Figure 2. Sagittal magnetic resonance imaging of the patient

Focusing on an intact surgical margin of approximately 1 cm, the tumor tissue was traced by releasing from under the skin of the nose ridge, from the lateral nasal wall, from behind the columella, and from the nasal floor. The tumor was found to cause a minimal defect in the anterior tabula, where it extended into the frontal sinus, and a defect of approximately 3 cm in the posterior tabula. In the postero superior, it was seen that the cribriform plate was destroyed and the dura was exposed but it was intact. The tumor was scraped off the frontal sinus and the dura. The inferior, middle, and superior conchas were bilaterally intact (Figure 4).

The defect on the base of the skull was repaired using an artificial dura. This region and the frontal sinus were obliterated with the fat tissue obtained from the abdomen. A 3x1.5 cm titanium mesh was fixed to the right lateral nasal wall remnant to support the nose ridge; the skin of the

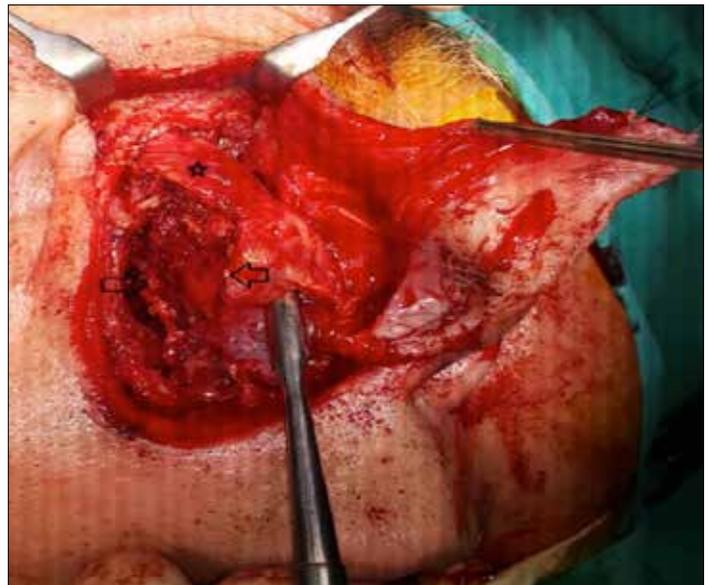


Figure 3. Appearance of the mass after the ridge of the nose was elevated by making a lateral rhinotomy incision (arrows show the borders of the mass and the star represents the nasal dorsum)



Figure 4. Nasal cavity after the resection of the tumour (Star: left inferior concha)

nose ridge was laid on it and the incisions were sutured. Postoperative adjuvant radiotherapy is recommended. No recurrence or complication was observed in the sixth month follow-up period.

DISCUSSION

Nasal septal malignancies are very rare tumors (2). In the series of 85 cases with nasal septal carcinoma, Beatty et al reported that 58 (68.2%) patients had squamous cell carcinoma (5). Nasal septal malignancies often occur over the age of 50 years and are more common in males (3, 5). Smokers; those who smell tobacco; and workers of petroleum, wood, nickel, and leather industry are high risk groups for nasal septal carcinoma. Consistent with this information, our patient had a 40-year smoking history and was a 64-year-old male.

The most common symptoms of septal carcinomas are nasal obstruction, recurrent epistaxis, nasal discharge, facial pain and headache, swelling in the nose, proptosis, diplopia, and epiphora (6, 7). In our patient, he had complaints of nasal congestion for three years and headache that increased severity for a year.

Anterior rhinoscopy and endoscopic examination are main tools in the diagnosis of nasal cavity tumors. A definite diagnosis is made by histopathological examination in suspected lesions (6, 7). Endoscopic examination is necessary for the staging of the disease. By means of an endoscope, the spread of tumor is determined by monitoring the complete aerodynamic path and the nasal septum. However, MRI can give an idea about the spread of the disease in the soft tissue and intracranial extension. A CT scan is needed to detect nodal and distant metastases and bone invasion. According to the American Joint Committee on Cancer, there is no separate staging system for nasal septum malignancies, and they are classified as a subunit under sinonasal malignancies (8). We detected a septum derived tumor through anterior rhinoscopy in our case and confirmed the diagnosis using a punch biopsy. We evaluated the skull base defects and tumor invasion using CT and MRI. A defect in the base of the skull was noted according to the radiologic imaging, and a neurosurgery consultation was requested in the preoperative period; thus, we received intra-operative support for the repair of skull base defect.

The treatment in nasal septal squamous cell carcinomas is extensive surgical excision and, if necessary, post-operative radiotherapy (5). In the early stages of the disease, radiotherapy alone is not recommended because tumor recurrence can be seen in this type of approach. It should also be noted that cartilage defects due to radiotherapy may cause cosmetic problems (6). However, surgical treatment can be used alone in the early stages (9). In our case, we performed extensive surgical resection and post-operative radiotherapy. Our patient had no recurrence or metastasis in the sixth month follow-up period.

In a study conducted on neck metastasis in nasal septal carcinomas, Lelievre et al reported the rate of neck metastasis as 44% and the 5-year survival rate was 66%. However, they demonstrated that the rate of neck lymph node metastasis was higher in tumors larger than 2 cm. Nodal involvement is rarely seen, but it is a significantly poor prognostic factor (10).

The treatment should also include neck dissection in patients with lymphadenopathy (2). We did not perform lymph node dissection because our patient was clinically and radiologically N0 in the neck. However, the patient is being followed up, for nodal metastasis and/or local recurrence. The most important prognostic factor in these tumors is the stage of tumor. In a study, the 5-year survival rates for T1, T2, T3, and T4 tumors were 91%, 70%, 64%, and 50%, respectively (10).

CONCLUSION

Nasal cavity tumors should be considered, especially in elderly patients with the complaints of nasal obstruction, epistaxis, facial pain, and headache. Nasal septal tumors are rare, but early diagnosis has favourable survival rates.

Informed Consent: Written informed consent was obtained from patient who participated in this case.

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