Case Report / Olgu Sunumu

Squamous cell carcinoma originating from the nasal septal perforation: a rare nasal tumor

Nazal septal perforasyondan kaynaklanan skuamöz hücreli karsinom: Nadir bir burun tümörü

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Primary squamous cell carcinoma of the nasal septum is an extremely rare malignancy. In this article, we report a case of 52-year-old female with a complaint of nasal obstruction along with occasional nasal bleeding for one year. Endoscopy showed a 2.5x2 cm perforation originating from the anterior nasal septum. Incisional biopsy result was reported as squamous cell carcinoma. The tumor was removed by functional endoscopic surgery. Histopathological examination revealed squamous cell carcinoma with safe surgery borders. No recurrence and complications were noticed after one year of follow-up. The functional impact of the treatment with high mortality rates highlights the importance of early diagnosis. We recommend the differential diagnosis of septal perforation and early wide surgical excision for such cases.

Key Words: Nasal septum; septum perforation; squamous cell carcinoma.

Nazal septumun primer skuamöz hücreli karsinomu oldukça nadir görülen bir malignitedir. Bu yazıda, bir yıldır burun tıkanıklığı ve bazen burun kanaması yakınması olan 52 yaşında bir kadın olgu sunuldu. Endoskopide 2.5x2 cm boyutlarında anterior nazal septum kaynaklı perforasyon gözlendi. İnsizyonel biyopsi sonucu, skuamöz hücreli karsinom olarak bildirildi. Tümör fonksiyonel endoskopik cerrahi ile çıkarıldı. Histopatolojik incelemede skuamöz hücreli karsinom güvenli cerrahi sınırıyla birlikteydi. Bir yıllık takip sonrası nüks ve komplikasyon gözlenmedi. Tedavinin fonksiyonel etkisi ve yüksek mortalite oranları, erken tanının önemini vurgulamaktadır. Septal perforasyonun ayırıcı tanısı ile birlikte bu olgularda erken geniş cerrahi eksizyon önermekteyiz.

Anahtar Sözcükler: Nazal septum; septum perforasyonu; skuamöz hücreli karsinom.

Primary carcinomas of the nasal septum are very rare malignancies.[1,2] Mostly originate from the tip of the caudal septum. Squamous cell carcinoma is the most common and malignant melanoma is the second most common pathologic diagnosis for primary nasal septal malignancies.[3] Smoking and tobacco use are important factors in etiology.[3,4] Most common symptoms of septal carcinomas are nasal obstruction, recurrent epistaxis, nasal discharge, facial pain, nasal mass, and orbital complaints such as epiphora, diplopia, and proptosis.[5,6] In this article, a case with septal perforation and without risk factors for nasal septal carcinoma will be presented.

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CASE REPORT

A 52-year-old women complaining of nasal obstruction, occasional recurrent epistaxis and headache for one year, was admitted to our hospital. A 2.5x2 cm septal perforation was seen in the caudal septum on nasal endoscopy. The posterior and posterosuperior borders of the perforation had hemorrhagic crusting and abnormal mucosal hypertrophy. Other sides were smooth and clean (Figure 1).

After diagnosis of nasal septal perforation, detailed medical history about tobacco use and smoking, previous nasal surgery, nasal trauma, nasal decongestant, and cocaine use, exposure to nickel or any petroleum products, tuberculosis, Wegener's granulomatosis, syphilis were taken. Routine ear, nose and throat examination was performed. As laboratory examinations and tests; purified protein derivative (PPD), the anti-neutrophil cytoplasmic antibody (ANCA), the angiotensin converting enzyme (ACE), venereal disease research laboratory (VDRL), C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), chest radiograph, biochemistry and coagulation screen were performed. No etiological factor was identified.

Incisional biopsies were taken from the superior, posterosuperior, posterior, posteroinferior and inferior borders of perforation. Pathology results were reported as squamous cell carcinoma for only the posterior and posterosuperior biopsies.

Figure 1. *Septal perforation and hemorrhagic-crusting at posterior and superior borders.*

Other directions were clean. For local and distant metastases, neck, thyroid, and abdominal ultrasonography (USG), neck and thorax computed tomography (CT) and neck magnetic resonance imaging (MRI) were done. No pathology was detected (Figure 2). Panendoscopic examination was normal except for the septal perforation and hemorrhagic crusting.

The patient underwent a functional transnasal endoscopic removal of the tumor under general anesthesia with clean 1 cm margins superiorly and inferiorly and 2 cm posteriorly (Figure 3). Intraoperative frozen section examination used to achieve safe surgical margins. The septal defect area was reconstructed with septal splints, Spongostan (Spongostan® Johnson & Johnson, Skipton, UK) and Merocel (Merocel®, Medtronic Xomed, Jacksonville, FL) swabs. Postoperatively no complications were seen. The histopathologic diagnosis was micronvasive squamous cell carcinoma. Surgical margins were reported as safe. Radiotherapy was not planned. On one-year follow-up with endoscopic examination, neck USG, neck and thorax CT no recurrence or complication was observed.

DISCUSSION

Primary squamous cell carcinoma of the nasal septum is very rare. The usual age of presentation varies over 50 years, with a higher incidence among males.[1-3] There is an increased risk of nasal carcinoma especially in smokers,[3,4] nickel refinery workers,[7] woodworkers and through exposure to petroleum products and solvents.[8] In our patient's history there was no smoking and exposure to nickel or any petroleum products.

The symptoms are generally non-specific with nasal obstruction and recurrent epistaxis reported. Most common symptoms of septal carcinomas are nasal obstruction, recurrent epistaxis, nasal discharge, facial pain, nasal mass, and orbital complaints such as epiphora, diplopia, proptosis.[5,6] In our case the main symptoms were nasal obstruction, occasional recurrent epistaxis and headache for one year.

Endoscopic nasal examination is important for diagnosis. In addition, USG, CT and MRI are useful for staging the malignancy. Definitive diagnosis is made by histopathological examination.[5,6,9] For our case after diagnosis of nasal septal perforation, a detailed medical history about the possible

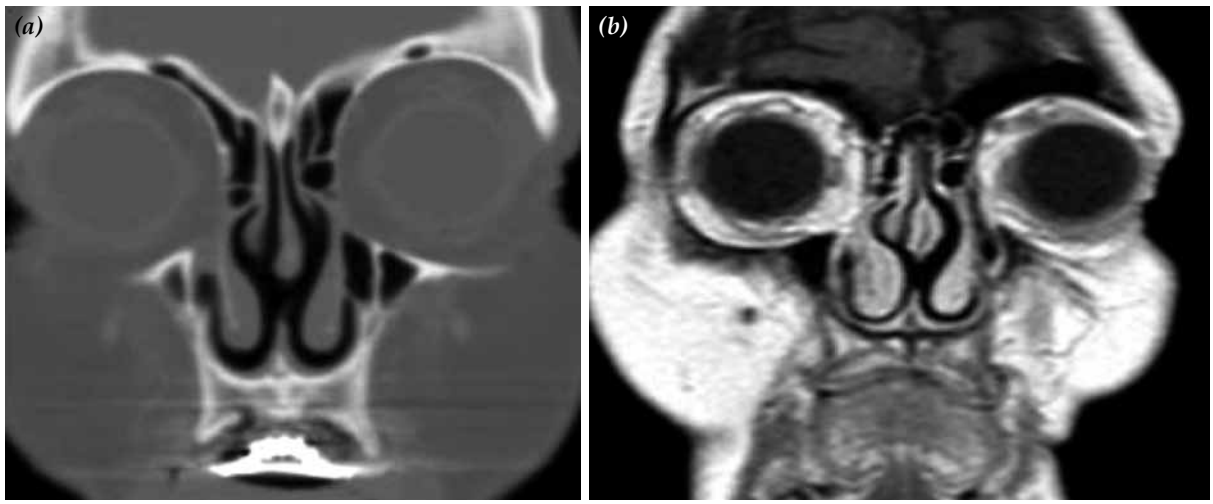

Figure 2. *Septal perforation at kaudal septum.* ***(a)*** *Computed tomography.* ***(b)*** *Magnetic resonance imaging.*

etiologic factors for septal perforation was taken.[10] Routine ear, nose and throat examination was performed. Various laboratory examinations and tests PPD, ANCA, ACE, VDRL, CRP, ESR, chest radiograph, biochemistry and coagulation screen were also performed. But no etiological factor was determined.[10] Our patient was diagnosed by pathological investigation.

Treatment of the primary tumor is excision of tumoral tissue with 1 cm safety margins under frozen section control. Endoscopic methods can be applied for early-stage lesions as in our case. Due to the possibility of submucosal spread of the tumor, wide surgical excision is required. Some of the lesions were removed totally by alar or lateral rhinotomy approaches. For removing large lesions, approaches such as septectomy, rhinectomy, maxillectomy with orbital exantration can be applied. In patients with lymphadenopathy, a neck dissection should be added. If necessary, postoperative radiotherapy can be applied.[8,11-13]

In our case, intranasal endoscopic excision was chosen because of the mass size and location. Intraoperative frozen examination was used to achieve safe surgical margins. Since the tumor was at early age and there were no lymphadenopathies in the neck, postoperative radiotherapy was not planned after radiation and medical oncology consultation. No complications or recurrence was detected in the follow-up period of 12 months.

Nasal septal carcinomas have better prognosis when diagnosed earlier.[7,11,12] The most important prognostic factor is tumor stage.[8,12,13] In our case, the detailed medical history and the examinations for the etiology of perforation did not expose any risk factor for the development of perforation and

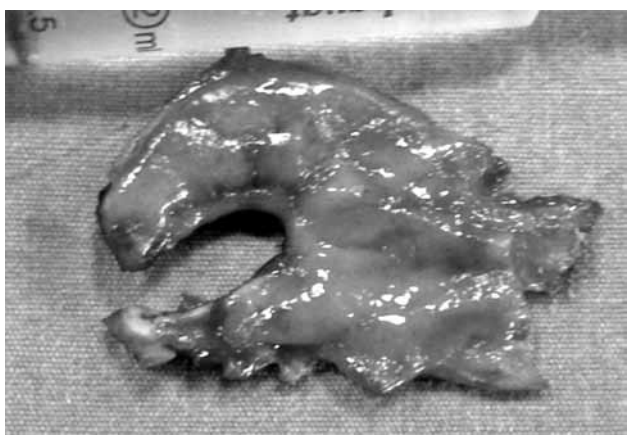

Figure 3. *Endoscopic removal of tumoral mass.*

Table 1. Relationship between nasal septum squamous cell carcinoma and septal perforation in literature

Reference	n	Septal perforation
Le Liever et al.[1]	22	-
Leeman et al.[2]	1	-
Beatty et al.[3]	85	-
Deutsch et al.[6]	1	-
Fradis et al.[7]	16	-
Kızılkaya et al.[6]	1	-
Özkırış et al.[12]	1	-
Echeverria-Zumarraga et al.[13]	1	+

malignancy. Biopsies showed malignancy only in two areas. All these indicate that malignancy occurred secondarily on a spontaneously formed septal perforation. A small number of cases of nasal septum originated tumors in the literature are available. Our case of squamous cell carcinoma that occurred secondarily on a spontaneously formed septal perforation is only the second to be reported since 1988.[13] Our patient is probably the second reported case of squamous cell carcinoma occurring secondarily on a spontaneously formed septal perforation (Table 1). Thus our case has been the second case of septal perforation with squamous cell carcinoma association.

As a result, diagnostic approaches to these cases are important due to squamous cell carcinoma originating from the nasal septal perforation has rarely been seen.

Declaration of conflicting interests

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REFERENCES

1. LeLiever WC, Bailey BJ, Griffiths C. Carcinoma of the nasal septum. Arch Otolaryngol 1984;110:748-51.
2. Leeman DJ, Shuler KJ, Han K, Mirani N. Dedifferentiation of primary squamous cell carcinoma arising from the nasal septum. Otolaryngol Head Neck Surg 1996 ;114:131-6.
3. Beatty CW, Pearson BW, Kern EB. Carcinoma of the nasal septum: experience with 85 cases. Otolaryngol Head Neck Surg 1982;90:90-4.
4. Schaefer SD, Hill GC. Epidermoid carcinoma of the nasal vestibule: current treatment evaluation. Laryngoscope 1980;90:1631-5.
5. Fradis M, Podoshin L, Gertner R, Sabo E. Squamous cell carcinoma of the nasal septum mucosa. Ear Nose Throat J 1993;72:217-21.
6. Kızıklkaya Z, Emir H, Ceylan K, Samim E. Nazal septumun primer yassı hücreli karsinomu. Türkiye Klinikleri J Med Sci 2008;28:977-9.
7. Torjussen W. Occupational nasal cancer caused by nickel and nickel compounds. Rhinology 1985;23:101-5.
8. Deutsch HJ. Carcinoma of the nasal septum. Report of a case and review of the literature. Ann Otol Rhinol Laryngol 1966;75:1049-57.
9. Murray A, McGarry GW. The clinical value of septal perforation biopsy. Clin Otolaryngol Allied Sci 2000;25:107-9.
10. Diamantopoulos II, Jones NS. The investigation of nasal septal perforations and ulcers. J Laryngol Otol 2001;115:541-4.
11. McGuirt WF, Thompson JN. Surgical approaches to malignant tumors of the nasal septum. Laryngoscope 1984;94:1045-9.
12. Ozkiriş M, Akbulut S, Aydin E, Unver S. Squamous cell carcinoma originating from the nasal septum: a case report. [Article in Turkish] Kulak Burun Bogaz Ihtis Derg 2006;16:91-3.
13. Echeverria-Zumarraga M, Kaiser C, Gavilan C. Nasal septal carcinoma: initial symptom of nasal septal perforation. J Laryngol Otol 1988;102:834-5.