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Case Report

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Chronic Tobacco Snuff-Induced Columellar Squamous Cell Carcinoma: A Case Report

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ABSTRACT

In this article, we presented a 57-year-old woman with a history of snuff abuse for 16 years and developed squamous cell carcinonoma in the columellar skin. Primary cancer of nasal columella is extremely rare. This is a very agressive tumor and if not resected adequately it can easily spread to adjacent structures.. These tumors should be treated radically. The tumor was resected and defect was reconstructed with left nasolabial sulcus flap in this case. Close follow-up is required because of high recurrence rate. We try to discuss the behavior of these tumors, staging, treatment modalities and prognostic factors.

Keywords: *Tobacco snuff, Nasal columella, Squamous cell carcinoma*

ÖZET

Kronik Olarak Buruna Tütün Çekimine Bağlı Skuamoz Hücreli Karsinom: Olgu Sunumu

Bu yazıda 16 yıldır burnuna tütün çekme hikayesi olan ve kolumellar ciltte skuamoz hücreli kanser gelişen 57 yaşında bayan hastayı sunduk. Nazal kolumellanın primer kanseri oldukça nadirdir. Bu çok agresif olan ve yeterince rezeke edilmediğinde kolaylıkla çevre yapılara yayılabilen bir tümördür. Bu tümörler radikal olarak tedavi edilmelidir. Bu vakada tümör rezeke edildi ve oluşan defekt nazolabial sulkus flebiyle rekonstrukte edildi. Yüksek rekürrans oranı nedeniyle yakın takip gereklidir. Bu tümörlerin davranışı, evrelemesi ve tedavi seçeneklerini taryışmaya çalıştık.

Anahtar Kelimeler: *Tütün çekimi, Nazal kolumella, Skuamoz hücreli karsinom*

Primary cancer of the nasal region is extremely rare. These cancers arise from nasal skin. Histologically, 75% of these cancers are basal cell carcinoma and 25% of these are squamous cell carcinoma (1). Incidence of columellar cancer is 4.2% in all nasal skin cancers (2). They are often seen in older ages (average age:65) (3). Columellar cancer is three times more common among men (4). Smokers and oil production, wood, nickel and leather workers are risk groups (3). Alcohol consumption rate is similar with (18%) normal population (4). Excessive sun exposure is not a risk factor (5). Snuff users are an another potential risk group. In the literature, the carcinogenic effect of nasal snuff usage is not well-documented.

Clinical findings of these tumors are nonspesific. The most common signs are visible mass (77%), skin irritation and bleeding (60%) (6). Morever, keratotic papules, nodules or persistent symptoms of rhinosinusitis may be seen (4,6). Nasal obstruction (17%), pain (15%) and cervical lymphadenopathy (10%) are rare complaints (4). Although facial, buccinator, submental, digastric, preauricular, parotid and upper cervical lymph nodes can be involved, submandibuler nodes are the most common region of methastasis (7). Treatment options are surgery, radiotherapy (RT) or both (4). In literature, there are two reports suggesting nasal snuff as a cause for nasal cancer, which were published by John Hill in 1761 and Suja Sreedharan in 2007 (8). In this article, we presented a 57-year-old woman with a history of snuff abuse for 16 years and developed squamous cell carcinonoma in the columellar skin.

CASE REPORT

A fifty-seven years old female patient was admitted to our clinic with complaint of growing mass on the nose tip since six months. On physical examination she had fixed, hyperemic, 2x2 cm mass involving columella and nose tip, and extending 0,5 cm posteriorly on the caudal septum (Figure 1). She gave a history of daily snuff usage for a duration of 16 years. Pathological lymphadenopathy was not detected in physical and

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neck ultrasound**.** Incisional biopsy revealed "squamous cell carcinoma". There was no bone invasion on maxillofacial computerized tomography (CT). Distant metastasis was not detected at thorax CT and whole body bone scaning. Under general anesthesia, solid mass excision was performed by leaving surgical margin 0.5 cm from border of enduration**.** The reconstruction was carried out with a nasolabial flap. Histopathologic review of the specimen revealed as "well-differentiated squamous cell carcinoma, surgical margins are clean" (Figure 2). Patient has no evidence of recurrence and second primary tumor in endoscopic examination since 1-year follow-up (Figure 3).

Figure 1. *Preoperative view of mass*

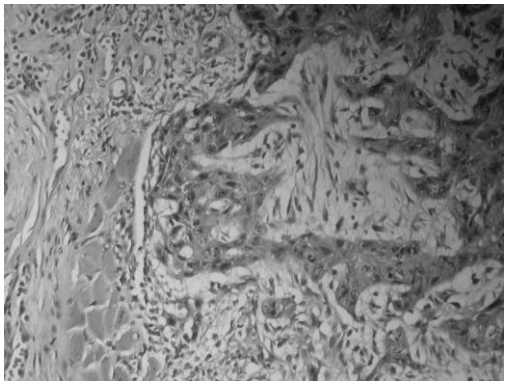

Figure 2. *Microscopic view of the well-differentiated squamous cell carcinoma excised from the nasal columellar region (100X H+E stain).*

Figure 3. Postoperative view of patient after one year.

DISCUSSION

Primary tumor of nasal columella is extremely rare. We did not find any information about columellar cancer from snuff in literature except two case reports. Dry snuff is powdered tobacco that is inhaled through the nose. This habit is not widespread in Turkey. Snuff (oral and nasal) usage represents about 1% of total tobacco consumption in Britain and 40% in India (8,9). Dry snuff contain tobacco-specific N–nitrosonornicotine, N-nitrosamines (TSNA) and 4-(methylnitrosamino)- 1- (3-pyridyl) -1 –butanone (10). TSNA has been found to give rise to cancers in the nasal cavity, after applied systemically in rats (11). The carcinogenic effects in the nasal cavity are partially attributed to substances of TSNA in nasal cells (10). Dry tobacco snuff may induce nasal vestibul tumors, over a long period.

There are various opinions about behavior of these tumors, staging, treatment modalities and prognostic factors. But, authors have consensus on high aggressivity of this tumor. Therefore; in case of inadequate resection of columellar cancers, spreading to septum, nasal base and premaxilla are inevitable (6). Spreading of these tumors are difficult to detect only by physical examination. For this purpose, CT and magnetic resonance imaging (MRI) is useful in determining the dissemination of the local tumor. It has been shown that tumors in the vestibular and columellar area are more prone to lymphatic metastasis in some studies (2). Approximately 10% of patients have lymph node metastases in the neck at initial diagnosis. In our patient, any lymphatic metastasis was not detected by physical examination, ultrasonography and computed tomography.

There is no standart staging model for determining of dissemination of the tumor. The size of the lesion has not been included as a reference in Wang's classification (12). Fornelli et al. also have used this classification in their study (3). GETTEC study group has taken the tumor size as a reference for staging (UICC - international union against cancer) (4). This group recommends surgery for T1 tumors, radiotherapy for T2 and T3 tumors, combination of surgery and radiotherapy for T4 tumors (4). Because of the difficulties of reconstruction in T2 and T3 tumors radiotherapy is recommended primarily. According to UICC, the presented case was classified as T1N0M0. Various musculocutaneous flaps are available for reconstruction of the defect such as unilateral nasolabial sulcus, oblique frontal, anguli oris, bilateral nasolabial and Washio's flap. The defect was reconstructed with left nasolabial sulcus flap in this case.

Neck dissection is still controversial. Upper lip and columella lymphs drains to submandibuler lymph nodes. Therefore, neck dissection should include both submandibuler nodes. Neck dissection was not

performed, because both clinic and radiologic evaluation did not reveal any metastatic lymph nodes in our case. On average 10-15% patients have lymph node metastases in the neck after treatment of primary lesion during follow up (4). Fornelli et al. reported that second primary tumors of head and neck are seen approximately 10% of patients in their follow-up (3). Therefore, these patients should be followed by endoscopic examination.

Greater than 2 cm tumor, the invasion of the skin, cartilage, bone, or lips represent poor prognosis (13). Nasal region tumors have the most common recurrence and metastasis rate among cancers originating from the mid-fascial area (6). Recurrence rates have been reported ranging between 16% and 41% in the literature (3,4,6). The most common causes of recurrence are incomplete resected tumors and false-negative surgical margins (6). Early stage columellar tumors have approximately 80% 5-year survival rate (3). However, this rate is 50% in advanced columellar tumors (6).

Long term snuff abuse may cause malign transformation in the nose. Diagnosis and treatment may be delayed because of nonspecific signs and symtoms. These tumors should be treated radically. Close follow-up is required because of high recurrence rate, and in follow-ups endoscopic examinations are recommended to detect second primary tumors which are not uncommon.

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