

*GENİŞ RADİKÜLER KİST KOMPLİKASYONLARI: NERVUS ALVEOLARIS İNFERİOR PARESTEZİSİ (İKİ OLGU SUNUMU)

A COMPLICATION OF LARGE EXPANSIVE RADICULAR CYSTS: N. ALVEOLARIS INFERIOR PARESTHESIA (TWO CASE REPORTS)

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Özet

Radiküler kistler çene kistleri içinde en yaygın olanlardır. Bunlar çeneleri etkileyen tüm kistlerin yaklaşık % 68-52'sini oluşturmaktadırlar. Diğer yaşlara göre 30 yaşından sonra daha yüksek oranda görülmektedir ve erkeklerde kadınlardan daha çok görülmektedir. İnflamatuar kistler köken aldıkları malessez epitel artıkları ve sekonder pulpa nekrozuna göre sınıflandırılmaktadırlar. Dünya Sağlık Örgütü'ne göre, inflamatuvar kökenli çene kistlerinin bir türü de radiküler kisttir.

Radiküler kistler asemptomatik büyüme göstererek çene kemiğinde belirgin rezorpsiyon oluşturabilirler. En sık görülen belirtisi olan şişlik; ağrılı veya ağrısız olabilir. Bildirilen diğer semptomlar ve belirtiler olarak; parestezi, ilgili dişin pozisyonunda değişiklik ve mobilite sayılabilir. Radiküler kistler genellikle sinirsel iletim değişikliği ile ilişkili değildir. Sinirsel iletim değişiklikleri genellikle maligniteler (metastatik kanser, multipl miyelom), nörovasküler demeti doğrudan ya da dolaylı olarak etkileyen yaralanmalar, çeşitli sistemik hastalıklar ya da nörolojik hastalıklar (Multipl Skleroz) ile ilişkili olmaktadır. Inferior alveoler sinir bazen periapikal lezyonlardan ve mandibular kistlerden etkilenir. Inferior alveoler sinir bozukluğuna neden olan mandibular kist hakkında literatürde çok az sayıda rapor vardır. Bu nedenle radiküler kist nedeniyle inferior alveoler sinir parestezisi oluşan iki olguyu sunmayı amaçladık.

Anahtar sözcükler: Radiküler kist, inferior alveoler sinir parestezisi, mandibular komplikasyon

Abstract

Radicular cysts are the most common in all jaw cysts. They comprise about 52 to 68% of all the cysts affecting the human jaw. The highest incidence is in their third decade of life and male predilection is higher than women. They have been classified as inflammatory cysts originating from Malassez's cell rests, secondary to pulp necrosis. According to the World Health Organization, the jaw cysts of inflammatory origin have one type is; the radicular cysts.

Radicular cysts have the potential to reach considerable sizes in the jaws that may develop asymptotically and demonstrate expansions, may cause significant bone resorptions. The most common symptom is pain, which may or may not be accompanied by swelling. Other reported symptoms and signs include paresthesias and tooth displacement or mobility. Radicular cysts are not typically associated with nerve disturbance. Nerve disturbance is usually related to malignancies (metastatic carcinoma, multiple myeloma), direct or indirect injury to the neurovascular bundle, various systemic diseases (Sickle Cell Disease), or neurological diseases (Multiple Sclerosis). Inferior alveolar nerve is sometimes affected by periapical lesions and mandibular cysts. There are few reports in the literature about mandibular cysts that causes inferior alveolar nerve disturbance. Therefore we aimed to present two cases with inferior alveolar nerve paresthesias caused by radicular cysts.

Key words: Radicular Cyst, Inferior Alveolar Nerve Paresthesia, Mandible, Complication.

INTRODUCTION:

Radicular cysts are the most common form of odontogenic cysts that affect the

maxillofacial region (2) and are most often seen in patients between 30 and 50 years old (11). A radicular cyst is the last step in a progression of inflammatory events following the formation of a periapical inflammatory lesion secondary to pulpal necrosis in a tooth. Over time, an inflammatory cyst can develop in the bone at the root apex of a carious tooth due to inflammatory stimulation and proliferation of the epithelial rests of Malassez (residual epithelial cells in the periodontal ligament). Many of these cysts are typically asymptomatic and discovered incidentally at routine dental panoramic radiography (9). The cyst may

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displace adjacent teeth or cause mild root resorption. In the radiological examination, most radicular cysts appear as round or pear-shaped, unilocular, radiolucent lesions in the periapical region (9). They are usually less than 1 cm in diameter and are bordered by a thin rim of cortical bone (9, 12). The associated tooth usually has a failed restoration or large carious lesion.

Radicular cysts are one of the most common lesions affecting the jaws and many of these cysts share similar clinical and radiographic features (6). Therefore, the differential diagnosis of radicular cysts should be based on careful examination of clinical, radiographic, and histopathologic features. The lesions mimicking radicular cysts are dentigerous cysts, odontogenic keratocysts and ameloblastomas. Like other cysts, radicular cyst causes no symptoms until the swelling becomes noticeable. Infection of radicular cyst causes the usual symptoms of pain and accelerated swelling (1, 8).

Radicular cysts are generally treated by enucleation. However, larger radicular cysts also may be treated by marsupialization. The cyst can then be excised at a later date with a less extensive surgical procedure. Marsupialization has been recommended in a number of studies as a technique to allow partial resolution and decrease in size in the keratocyst so that teeth or the inferior alveolar nerve may be spared (5, 7, 10).

There are few reports in the literature about mandibular cysts that causes inferior alveolar nerve disturbance (4). Therefore we aimed to present rare cases associated with inferior alveolar nerve paresthesias caused by radicular cysts and to present that benign odontogenic cysts might also create neurosensory disturbance.

CASE 1:

A 43 years old male patient was referred to our clinic with complaining of swelling in the right molar region of mandible and paresthesia. The patient's medical history was insignificant. No other abnormality was detected on complete systemic examination. The patient reported that she had first noticed a swelling 6 months before. Oral examination showed the bad oral hygiene. In the right mandible first molar and first

premolar region a softly palpable, remarkable swelling was evident. The first molar tooth was mobile and had a failed restoration. The overlying mucosa appearance was normal. Panoramic radiograph showed that the right first molar tooth had a failed root canal treatment. A large radiolucency with a well-defined border which measured 2.5 cm x 1.5 cm, related with mandibular first molar. To detect the lower lip paresthesia, pin prick test were done (Figure 3).



Figure 1: Pre-operative panoramic graphy

When we prickled right lower lip with a dental sond to test the patient, he had no reaction. Under local anesthesia, the flap was raised and the cyst was enucleated with associated right first molar tooth. the surgical site was healed very well,. There was partial paresthesia on the right side affecting the mental nerve distribution of the inferior alveolar nerve, in the following period pin-prick test was done again and no paresthesia symptoms were observed. There was also no evidence of recurrence of the cysts after six months (Figure 1,2,3).



Figure 2:After six months post-operative panoramic graphy



Figure 3: Pin-prick test

CASE 2:

A 49-year-old female was referred to our clinic with the complaint of a swelling overlying the left corpus and symphysis of the mandible. She also had mandibular paresthesia involving the left lower lip for 2 months. . Extraoral examination revealed soft tissue swelling and tenderness in the left masseter region. There was a palpable hard mass at the base of the vestibule in intraoral examination. Radiographic examination showed a large radiolucent lesion from the mandibular right first molar tooth area to the left first molar area. The mandibular canine and second premolar teeth were displaced to the inferior border. A fine-needle aspiration biopsy was performed and this biopsy supported that the lesion was cystic. Panoramic radiograph showed that a large multilocular radiolucency with a well-defined border which measured 2.5 cm x 8 cm. To find out the lower lip paresthesia, pin prick test were performed. In the present case, it was decided to perform enucleation under local anesthesia.

Flap was raised and the cyst was completely enucleated. In the post-operative period no complication was observed and paresthesia was gradually healed. After the three months, there were no symptoms of recurrence and paresthesia. (Figure 4, 5, 6, 7)



Figure 4: Pre-operative panoramic graphy



Figure 5: Pin-prick test



Figure 6: After two months post-operative panoramic graphy



Figure 7: After thirteen months post-operative panoramic graphy

DISCUSSION:

Alveolar Inferior Nerve paresthesia is an extremely rare symptom for radicular cysts.

Sumer et al reported a case with inferior alveolar nerve paresthesia caused by a dentigerous cyst associated with three teeth (Med Oral Patol Oral Cir Bucal 2007;12:E388-90.)

Paresthesia is defined as a sensory disturbance with clinical management manifestations such as burning, prickling, tingling, numbness, or itching (Zmener, 2004). It can include any deviation from normal sensation (Gilbert and Dickerson, 1981). If the mandibular mental nerve is affected, the most common complaints include a transient or permanent loss of sensitivity of the lip, chin and oral mucosa that is often associated with a limited intraoral xerostomia (Zmener, 2004)

In both of our cases prickling in the lip was described as a sensory disturbance but there was no complaint of xerostomia.

Paresthesia is usually related with serious illnesses such as malignancies or neurological diseases (3, 4) (metastatic carcinoma, multiple myeloma). In the review of the literature, this was the rare case of this nature noted that shows benign odontogenic lesions may also create neurosensory disturbance (6).

Infection-related paresthesia is usually related to mechanical pressure and ischemia associated with the inflammatory process or it is caused by the local pressure to the mental nerve consequent to the accumulation of purulent exudate in the mandibular bone (Gilbert and Dickerson, 1981; Yeler et al., 2004; Lenarda et al., 2000). Another cause of paresthesia could be the toxic metabolic products released following periapical tissue damage (Yeler et al., 2004; Lenarda et al., 2000)

In our cases possible explanations of the paresthesia are that the paresthesia is secondary to the inflammation in the cyst wall or it can be caused by simple mechanical compression of the expanded cyst. So neurovascular bundle was intact intraoperatively. In these cases, the extension of the cyst into the neurovascular bundle might caused the nerve disturbance. Both patients

had full return of neurologic function after enucleation of the cysts. .

CONCLUSION:

The present report showed that although neurosensory disturbance was an uncommon clinical feature of radicular cyst, one should remember that especially large radicular cysts might create nerve disturbance.

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