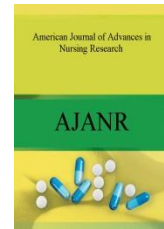




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A CASE REPORT OF 42 YEAR OLD MALE WITH PERIAPICAL CYST INVOLVING MAXILLARY SINUS

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ABSTRACT

The radicular cyst is one of the most common cysts found in the jaws. The prevalence of periapical cysts varies between 8.7% and 37.7% of chronic inflammatory periapical lesions. Radiographically, the radicular cyst is a unilocular radiolucent lesion with well circumscribed sclerotic borders that are often radiopaque. The lesion is associated with the apex of the tooth and a diameter of at least 1 cm is postulated to be necessary to differentiate it from that of a normal follicular space. The case report of a 42 year old male is presented which was treated with no postoperative complications.

INTRODUCTION

The radicular cyst is one of the most common cysts found in the jaws. The prevalence of periapical cysts varies between 8.7% and 37.7% of chronic inflammatory periapical lesions [1]. The periapical lesions may extend to the surrounding tissues and not limit themselves to the apex of the involved tooth. In different articles, most cases of unusually large periapical lesions of odontogenic origin are found in the maxilla where the bone is spongy. Because of the bone consistency, it is easier for the lesion to occupy bony space and expand. Lesions have been found to occupy the entire sinus and even the floor of the nasal cavity [2]. The pathogenesis of cysts has been described in three phases. During the first phase, the epithelial cell rests of Malassez begin to proliferate as a direct result of the inflammation and influenced by bacterial antigens, the epidermal growth factors, metabolic and cellular mediators. In the second, a cavity is formed, lined by epithelium and in the third phase the cyst grows by osmosis. The case report of a 42 year old

male is presented which was treated with no postoperative complications [3].

Case Report: A 42 year old male came with the chief complain for management of a painless swelling. It was present since six days in the left maxillary region with nasal obstruction. The patient took antibiotics by himself but his complaints did not improve. Clinically, there was a well defined swelling with a smooth surface. The swelling was compressible on palpation which indicated a loss of integrity of buccal bone. The intraoral examination revealed that the second premolar was decayed and non-vital. According to the patient nasal air flow was decreased on the left side. There were no other abnormalities identified on clinical examination. Radiographs revealed an osteolytic radiolucency well delineated around the roots of the left second premolar. The lesion had expanded the buccal cortical and displaced the Schneiderian membrane. Patient had a previous history of radicular cyst few years ago. It was decided to surgically enucleate the lesion under local anesthesia. Reflection of a mucoperiosteal flap, followed by removal of bone and exposure of the lesion membrane was carried out. Aspiration of the contents of the cystic lesion

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Research Article



revealed a yellow semi-viscous fluid. The lesional wall was hypertrophic and adhered partly to the mucosa of the base of the maxillary sinus; therefore, the lesional mass was totally curetted to a maximum extent. Enucleation of the cystic lesion and extraction of the premolar with care of the wound and suturing were done. Enucleating biopsy of the periapical lesion was diagnosed histologically as radicular cyst. No post operative complications were noted till the time of post operative follow-ups.

DISCUSSION

The etiopathogenesis of cysts is controversial; the formation has been explained by different theories, such as epithelial colonization, epithelial cavitations or the formation of microabscesses [4]. The first is based on the formation of an epithelized fistulous tract up to the granuloma from a periapical abscess fistulized to the oral cavity; when the communication is closed, the epithelial cells have already fully colonized the abscess, epithelizing it and giving rise to a radicular cyst. In the theory of epithelial cavitation, accumulations of epithelial cells are formed which further from the connective tissue which feeds them are left without vascularization and undergo degeneration and necrosis, thus forming the central area of the cyst. The theory of microabscess formation is based on the degeneration of the connective tissue leading to the development of the cyst; the formation of a microabscess in the nucleus of the granuloma, with the presence of stimulated epithelial cells, would lead to their growth in an attempt to line the created cavity [5,6]. Radiographically, the radicular cyst is a unilocular radiolucent lesion with well circumscribed sclerotic borders that are often radiopaque. The lesion is associated with the apex of the tooth and a diameter of at least 1 cm is postulated to be necessary to differentiate it from that of a normal follicular space. Natkin related radiographic lesion size to histological findings and concluded that with a radiographic lesion size of 200 mm² or larger, the incidence of cysts was almost 100%. Other odontogenic cysts like dentigerous cysts, odontogenic keratocysts and odontogenic tumors such as

ameloblastoma, Pindborg tumor, odontogenic fibroma and cementomas may share the same radiologic features as radicular cysts [7]. Keratinization is seen in approximately 2% of cases and when present orthokeratinization is more common than parakeratinization. When cysts are especially large, with maxillary sinus involvement, the panoramic radiograph is often not of great aid. CT scans provide superior bony detail, allowing for the visualization of the size and extent of the lesion with determination of orbital or nasal invasion or involvement. Again, with larger lesions, it also aids in planning of a surgical approach. Mucocoeles, retention cysts and pseudocysts are also included in the differential diagnosis when a maxillary sinus cyst is visualized involving maxillary expansion; this is in addition to the array of radiolucent lesions mentioned above that can also be visualized on CT [8]. The treatment of periapical cysts are still under discussion and many professionals opt for a conservative treatment by means of endodontic [9]. However, in large lesions the endodontic treatment alone is not efficient and it should be associated to a decompression or a marsupialization or even to enucleation and extraction of the associated tooth. A large maxillary cyst may involve the whole sinus and can transmit pressure to the walls of the sinus; consequently, ophthalmologic and nasal symptoms may develop. With extensive lesions, it is important to carefully plan the surgical approach. The choice of treatment may be determined by some factors such as the extension of the lesion, relation with noble structures, evolution and origin, clinical characteristic of the lesion, cooperation and systemic condition of the patient.

CONCLUSION

The chronic periapical lesions are usually asymptomatic and do not create soft tissue alterations but they can deteriorate, producing pain and fistulization. Dentists should be very careful before beginning any treatment and a careful and complete clinical and radiographic examination is needed to supply all the required information to treat the case.

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