ABSTRACT

Unicystic ameloblastomas and dentigerous cysts have similar clinical and radiographic appearance. Unicystic ameloblastomas generally have a better prognosis than multicystic ameloblastoma because of the greater likelihood of complete resection. The present case report provides the 11 year follow-up of a patient with unicystic ameloblastoma who was treated by enucleation. Conservative surgical enucleation with sufficient bone curettage and the use of osseointegrated implants for prosthetic rehabilitation could be useful as predictable treatment of unicystic ameloblastoma. This result extends the indication for conservative treatment of unicystic ameloblastoma and prosthetic planning with osseointegrated implants.


KEYWORDS

Unicystic ameloblastoma, Dental implant, Treatment, Recurrence

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Unikistik ameloblastoma, Dental implant, Tedavi, Rekürrens
INTRODUCTION

Ameloblastoma is an odontogenic epithelial neoplasm of tissue characteristic of the enamel organ but not differentiated to the point of enamel formation; it usually originates in the mandibular molar-ramus area and is usually benign but locally invasive. Ameloblastomas are often classified on the basis of histologic appearance, the most common subtypes being follicular, cystic, acanthomatous, plexiform, basal cell and granular cell; they are also sometimes classified as multicystic versus unicystic. Multicystic ameloblastoma, contains multiple cystic spaces; it may exhibit any or all of the histologic patterns described as subtypes of the lesion and is more aggressive and recurs more frequently than does unicystic ameloblastoma.

The term Unicystic Ameloblastoma (UA) was adopted in the second edition of the international histologic classifications of odontogenic tumors. UA’s account for 10% to 15% of all intra-osseous ameloblastomas in various studies. It has a recurrence rate of 6.7-35.7% and the average interval to recurrence is approximately 7 years.

UA’s and dentigerous cysts have an similar clinical and radiologic appearance. In most cases UA’s are associated with tooth impaction, the mandibular third molar being most often involved. Eversole et al found that the average age for unilocular impaction associated UA was 22 years, whereas multicellular lesion without impaction occurred at an average age of 33 years.

UA’s are usually treated as cysts by enucleation. The diagnosis of UA is made only after microscopic examination of the presumed cyst. If the ameloblastic elements are confined to the lumen of the cyst with or without intraluminal tumor extension, the cyst enucleation has probably been adequate treatment. The patient, however, should be kept under long-term follow-up. If the specimen shows extension of the tumor into the fibrous cyst wall for any appreciable distance, subsequent management of the patient is more controversial. Some surgeons believe that local resection of the area is indicated as a prophylactic measure, others prefer to keep the patient under close radiographic observation and delay further treatment until there is evidence of recurrence.

After removal of the large tumors, prosthetic reconstruction may be difficult because of the extensive tissue lost. Mandibular reconstruction with bone grafts and careful prosthetic planning with placement of osseointegrated implants could achieve the successful rehabilitation of patients with unicystic ameloblastoma who underwent large tumor enucleation.

This case report presents the clinical management of a patient with unicystic ameloblastoma. Treatment is described over a period of 11 years.

CASE REPORT

A 24 year old female patient was referred to Hacettepe University, Dental Faculty, Department of Oral Surgery in September 1993 with a painless swelling in the right mandibular molar region. The patient described initial observation of the swelling approximately 6 months prior to presentation. Clinical examination revealed an expansile lesion in the right mandibular third molar region. Panoramic radiograph demonstrated a unilocular radiolucent area including third molar tooth (Figure 1). An antero-posterior radiograph also showed the large radiolucent area on the right mandibular posterior region (Figure 2). Clinical and radiological features were suggestive of dentigerous cyst.

Under general anesthesia enucleation was performed. In addition the impacted teeth were extracted. The bone cavity was filled with allogenic bone graft material (Tutoplast microchips) (Figure 3). The excised lesion was fixed in 10% neutralized buffered formalin and sent for histopathological examination.

The lesion was diagnosed as unicystic ameloblastoma with intramural proliferations. Because this diagnosis carries a risk of recurrence, a long-
term follow-up period was planned. The patient called for panoramic radiographic controls every 6 months (Figure 4). After 5 years of mandibular reconstruction with allogenic bone graft material, appropriate bone healing was observed in the enucleation area and there were no sign of recurrence and one side free-end saddle removable partial denture was performed to achieve patient’s functions. At 8 years follow-up appointment patient complaint about the difficulties of using partial denture and wanted to have a fixed reconstruction. A simple prosthetic approach using with a solid screw implant (ITI implant, Straumann) was planned. 3.3mm in diameter and 12mm in length implant inserted with one stage surgery in the mandibular second molar region to improve the patient’s functions and aesthetics. Following the 3 months osseointegration process of the implant prosthetic rehabilitation completed. The patient continues to be followed and now has been disease free for 11 years (Figure 5).

DISCUSSION

According to Neville et al, histopathologic variants of the UA described as luminal UA, intraluminal UA, mural UA. In the luminal ameloblastoma the tumor is confined to the luminal surface of the cyst. One or more nodules of ameloblastoma project from the cystic lining into the lumen of the cyst in the intraluminal UA. In the mural UA the fibrous wall of the cyst is infiltrated by typical follicular or plexiform ameloblastoma.

Enucleation has probably been adequate treatment for intralumenal or luminal UAs. Some authors believe that the local resection of the area is indicated as a prophylactic measure if the specimen identified as mural UA, others prefer the conservative enucleation and long-term follow-up to delay further radical treatment until the evidence of recurrence.

Gardner discussed the treatment of ameloblastoma on the basis of pathologic and anatomi-
cal considerations and stated that recommended treatment for solid and multicystic ameloblastoma was radical treatment and UA was usually cured by curettage. Although Nakamura et al adopted more conservative treatment protocol and compare the long-term results of different approaches to ameloblastoma and reported that the conservative approaches for ameloblastoma namely, marsupyalization and enucleation with sufficient bone curettage are useful as predictable treatment methods that reduce the need for jaw resections. Gardner et al reported that plexiform UA is less aggressive with a lower recurrence rate after conservative treatment.

Implant supported prosthetic rehabilitations in the UA treatments are rarely reported in the literature. Becker and Wong reported an early functional loading case in the fully edentulous mandibular resection and reconstruction due to an ameloblastoma and inserted five implants two years after the removal of the tumor and they concluded that the implants are stable and the patient eating comfortably.

The interval between bone grafting and implant placement in the patients with reconstructed mandibles ranged from 8 to 34 months. In the presented case one side free-end saddle removable partial denture was performed for prosthetic rehabilitation 5 years after surgery because more than 50% of all recurrences of UA occur within 5 years of surgery. At the 8 year follow-up, not only for the patient’s complaints about partial denture but also achieve more suitable function and minimum bone lost at the region, an implant supported prosthesis was planned according to the complete bone healing and no sign of recurrence on clinical and radiological examinations.

This case presentation supports the conservative treatment of the unicystic ameloblastoma. The benign nature of UA often leads a surgeon to perform simple procedures to avoid the potential morbidity associated with larger resection. Radical surgery often means that the patients have serious complications including facial deformity, masticatory dysfunction and abnormal jaw movement. In many cases UA typically appears as a dentigerous cyst so the biopsy should be taken before the surgery. In this case report preoperative diagnosis was made as a dentigerous cyst and enucleation was performed for treatment without preoperative biopsy.

Postoperative follow-up is important in the management of UA. In this case report a successful outcome of the treatment now has been observed for 11 years, with bone healing, osseointegration of the implant, the provision of functional and aesthetically pleasing implant
supported prosthesis and the absence of clinical or radiographic evidence of recurrence of the unicystic ameloblastoma.

As a conclusion more conservative surgical enucleation with sufficient bone curettage and the use of osseointegrated implants for prosthetic rehabilitation could be useful as predictable treatment of unicystic ameloblastoma after the proper follow-up period. Primary bone grafting and osseointegrated implants could be the best option for adequate reconstruction after the treatment of a pathologic lesion in the mandible with the long-term follow-up. More cases of UA with long term follow-up periods (10 year and more) are needed to be reported to give better understanding of all aspects of this lesion.

REFERENCES


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