TREATMENT OF GIANT CELL GRANULOMA WITH INTRALESIONAL CORTICOSTEROID INJECTIONS: A CASE REPORT

Dev Hücreli Reparatif Granulomanın İntralezyonel Kortikosteroid Enjeksiyonu ile Tedavisi: Olgu sunumu

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ABSTRACT

Giant cell granuloma is rare in the head and neck region and most commonly affects the maxilla and mandible. Giant cell granulomas are benign but occasionally aggressive lesions that are traditionally treated with surgery. Because it is a benign process, less radical and non-surgical treatment alternatives are required. Corticosteroid injection is a viable alternative in the treatment of central giant cell granuloma to avoid surgery. We aim to present a case which was successfully treated with intralesional corticosteroid injection in the maxilla.

Keywords: Giant cell granuloma; intralesional corticosteroid injection; maxilla; nonsurgical treatment; surgical treatment

ÖZ

Dev Hücreli Reparatif Granuloma (DHRG) baş boyun bölgesinde nadir görülmekle birlikte hırsız gibi genellikle maksilla ve mandibulayı etkiler. DHRG selim bir lezyondur ancak genellikle agresif olup tedavisi geleneksel olarak cerrahıdır. Lezyonun selim karakteri nedeniyle daha az radikal olan ve cerrahi olmayan tedavi şekilleri içeren edilmektedir. DHRG tedavisinde cerrahiden kaçınıldığı durumlarda kortikosteroid enjeksiyonu alternatif bir tedavi olarak düşünülebilir. Bu yayında amacı; maksilada intralezyonel kortikosteroid enjeksiyonu ile başarıyla tedavi ettiği bir olgumu sunmaktır.

Anahtar kelimeler: Dev hücreli granuloma; intraleztonel kortikosteroid enjeksiyonu; üst çene; cerrahi olmayan tedavi; cerrahi tedavi
Introduction

The giant cell granuloma (GCG) is an uncommon benign bony lesion which is usually located in the mandible or maxilla (1). It accounts for less than 7% of all benign lesions of the jaws in tooth-bearing areas (2). World Health Organization defines GCG as an intraosseous lesion consisting of cellular fibrous tissue that contains multiple foci of hemorrhage, aggregations of multinucleated giant cells and occasionally trabeculae of woven bone (3). The etiology of GCG still remains controversial. However, it is thought to be a reactive, inflammatory, infective, or neoplastic process (4). Histologically, multinucleated giant cells, in a cellular vascular stroma, and often new bone formations are detected like Brown tumor. GCG lesions are similar to those found in hyperparathyroidism, neurofibromatosis type 1, Noonan syndrome and Cherubism (5). GCG affects both children and adults. 75% of GCG patients are younger than 30 years. It is twice as frequent in females than males. It usually occurs in the anterior maxilla but may also be seen in the anterior or posterior mandible (6). The lesion may appear as an unilocular or multilocular radiolucency with well- or ill-defined margins; varying degrees of expansion and erosion of the cortical plates. Root resorption has been reported (7). GCG is divided into two categories according to its clinical behavior: aggressive and nonaggressive. The nonaggressive form is more commonly seen with characteristic slow-growth pattern and painless swelling. The aggressive form is characterized by one or more of the following features: pain, paresthesia, root resorption, rapid expansion, cortical resorption and high recurrence rates after surgical curettage. The aggressive form is mostly found in younger patients. There is no histological difference between aggressive and nonaggressive type. Size and number of giant cells may influence clinical behaviour of the lesions (7, 8). The common treatment of GCG is surgery. Simple curettage, curettage with peripheral osteotomy, en bloc resection and cryosurgery are surgical treatment options. 5 mm surgical margins that extend to healthy tissues are recommended to avoid recurrences. Aggressive lesions with cortical perforations have high recurrence rates. En bloc resection might provide the greatest certainty of a cure in aggressive GCG (9). Various authors proposed excision via curettage and reported overall recurrence rates that range from 16% to 49%. Recurrence rates have been associated with surgical technique and lesion characteristics (7, 10). Recently non-surgical treatments have been described and their benefits may be worthy of consideration. These are; subcutaneous alpha interferon, systemic and nasal spray calcitonin, corticosteroid injection and radiation exposure. Particularly in children, surgical approach may result in tooth loss, facial deformity including discontinuity defects, or sensory nerve deficits. In such cases non-surgical treatments would be more preferable (11). The aim of this report is to present a case with GCG in the maxilla who has been treated successfully with intralesional corticosteroid injections.

Case report

A 42-year-old male patient admitted to our department with complaint of swelling in the left maxilla. There was no history of previous trauma or dental problems. The results of blood count and routine laboratory tests were normal. There was no systemic disease. Clinical evaluation revealed no evidence of cervical lymphadenopathy. The intraoral evaluation revealed a non-ulcerated, firm, elastic vestibular swelling in his left edentulous maxilla. Panoramic radiograph was non-contributory. The patient underwent computed tomography (CT) that revealed a hypodense, oval-shaped, unilocular, 1.5 cm in diameter, non-mineralized osteolytic lesion in the left maxilla (Figure 1). A preoperative intra-oral biopsy of the lesion revealed a morphology consistent with giant cell granuloma (Istanbul University Medical Faculty Department of Pathology No: 18240/2013). Brown tumours are identical to GCG both histologically and radiographically, but they were ruled out on the basis of normal serum levels of calcium, phosphorus, alkaline phosphatase and good renal function. Considering the size of the lesion, it was decided that surgical curettage would create a large defect that could hamper the use of removable prosthesis. Therefore, intra-lesional corticosteroid injection was presented as an alternative treatment. Patient was informed about the procedure and signed informed consent form was obtained.
1 ml of lidocaine without epinephrine (Jetokain Simplex, Adeka İlaç San. ve Tic. A.Ş, İstanbul, Turkey) and 1 ml of triamcinolone acetonide (Kenacort-A 40 mg, Bristol-Myers-Squibb Pty Ltd., New York, NY, USA) were mixed and intra-lesional injection was performed in different areas of lesion once a week (Figure 2) for six weeks duration. Two weeks later, lesion’s dimensions were observed to decrease and at the end of 6 weeks, lesion in the oral mucosa was not visible to naked-eye observation (Figure 3). At four month control no lesion was found in CT examination and new bone formation was apparent (Fig 4). Panoramic radiography obtained at one year follow-up revealed no recurrence of the lesion (Figure 5).

Discussion

The conventional therapy of GCG is enucleation or resection. This approach, however, is often associated with recurrences rates that range from 19% to 49% (10). Aggressive curettage and en bloc resection may decrease this ratio but, in case of large lesions, it also results in large tissue defects. Loss of teeth and/or germs in young patients are often unavoidable consequences. Therefore, non-surgical
Treatment of giant cell granuloma

The treatment of GCG with intra-lesional injections of corticosteroids can be used as an alternative to surgery, especially in large lesions which may compromise vital structures. This technique is well-tolerated and non-invasive. However, the lack of well-established protocols, especially in terms of drug dosage and treatment duration, warrants further controlled clinical trials which focus on long term follow-up and recurrence rates.

Conclusion

The treatment of GCG with intra-lesional injections of corticosteroids can be used as an alternative to surgery, especially in large lesions which may compromise vital structures. This technique is well-tolerated and non-invasive. However, the lack of well-established protocols, especially in terms of drug dosage and treatment duration, warrants further controlled clinical trials which focus on long term follow-up and recurrence rates.

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Conflict of interest

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