

Maksillada Tekrarlayan Santral Dev Hücreli Granülomun Alternatif Tedavi Yöntemi: Yedi Yıllık Vaka Raporu

Alternative Treatment Modality of Recurrent Central Giant Cell Granuloma in the Maxilla: Seven Year Follow-up Case Report

Aylin Çalış¹, Kemal Çalışkan², Turgay Seçkin¹

¹Ege Üniversitesi Diş Hekimliği Fakültesi Ağız Diş ve Çene Cerrahisi Anabilim Dalı, İzmir

²Ege Üniversitesi Diş Hekimliği Fakültesi Endodonti Anabilim Dalı, İzmir

Özet

Amaç: Nadir görülen bu vakada amaç, agresif santral dev hücreli granulomun (SDHG) cerrahi eksizyon ve kortikosteroid enjeksiyonu tekniğiyle tedavisinin uzun dönem bulgularını bildirmektir. SDHG, maksilla ve mandibulada ender rastlanan kemiğin iyi huylu lezyonudur.

Yöntem: 14 yaşında bayan hasta sol ön bölgede maksillada vestibül korteksteki şişlik nedeniyle kliniğimize başvurdu. Lezyon cerrahi olarak lokal anestezi altında çıkarıldı. Histolojik tanısı SDHG olarak kondu. Takip eden sürede iyileşme olmadı. Sekiz ay sonra aynı saha tekrar açılarak derin küretaj yapıldı. Aynı seansta lezyonlu bölgeye kortikosteroid enjeksiyonu yapıldı. Enjeksiyon takip eden 6 hafta boyunca haftada bir kez olmak üzere tekrarlandı.

Bulgular: Takip eden yedi yıllık takipte lezyon ve sol maksiller kanin stabil ve asemptomatik idi. Lezyon ile ilgili bri tekrarlama görülmedi.

Sonuç: Cerrahi küretajın lezyon içine kortikosteroid enjeksiyonu ile kombinasyonu SDHG tedavisi için umut verici bir yöntem olarak tekrarlayan lezyonlarda önerilebilir.

Anahtar Kelimeler: Santral dev hücreli granulom, kortikosteroid, cerrahi eksizyon

Abstract

Objectives: The aim of this unique report was to evaluate the long term outcome of an aggressive central giant cell granuloma (CGCG) lesion by using surgical removal and corticosteroid injection technique. CGCG is an uncommon benign bony lesion that occurs in the mandible and maxilla.

Methods: A 14 year-old female was admitted to our clinic with a complaint of hard swelling in the left maxillary anterior vestibule cortex. The lesion was surgically removed by enucleation which was carried out under local anesthesia. Histological investigation revealed a diagnosis of central giant cell granuloma. Patient's recovery was uneventful. During follow-up for eight months, the mass was opened and deep curettage was performed. After that, at same séance, corticosteroids was injected. The injection was repeated at the same rate once a week for 6 following weeks.

Results: At the follow-up examination after seven years, lesion and left maxillary canine were stable and asymptomatic. There was no recurrence of lesion.

Conclusion: Surgical removal combined with intralesional corticosteroid injection is a promising treatment approach for CGCG, and it can be suggested to reduce the recurrence of the lesion.

Keywords: Central giant cell granuloma, corticosteroids, surgical removal

INTRODUCTION

Central giant cell granuloma (CGCG) is accounted for 7% of all benign tumors of the jaws and described by The World Health Organization (WHO)¹ as an uncommon benign lesion, which is seen mainly in children or young adults and females. CGCG can be found at the tooth areas of the jaws and occurs more frequently in the mandible than the maxilla.²

Generally radiographic examination of CGCG revealed that the lesion had an expansive mode of radiolucency. When CGCG is in the maxilla, it can affect the floor of the maxillary sinus, the orbit, and the nasal fossae. An extensive CGCG of mandible may penetrate the cortical bone. Displacement and the root resorptions of the

related teeth are some radiographic findings of the lesion.³The etiology of CGCG is unknown, however, inflammation, trauma and intramedullary bleeding are considered as possible causes of the lesion.^{4,5}

Surgery is the conventional treatment of central giant cell granuloma. Surgical curettage is commonly recommended rather than nonsurgical methods. But these non-surgical methods are increasingly used, such as daily systematic doses of calcitonin and intralesional injections of corticosteroids.⁶

The aim of this unique report was to evaluate the long term outcome of an aggressive CGCG lesion by using surgical removal and corticosteroid injection technique.

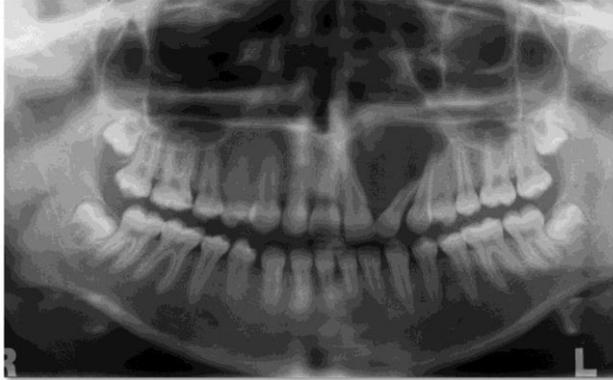


Figure-1: Preoperative panoramic radiograph showing large radiolucent area in the left upper jaw.

CASE REPORT

A 14 year-old female patient with a complaint of hard swelling in the left maxillary anterior vestibule cortex was admitted to the Department of Oral and Maxillofacial Surgery, School of Dentistry, Ege University. She stated that the swelling had slowly increased in size within the last 3 months and extended posteriorly from maxillary left lateral incisor to the second premolar. She had a clear medical history and could not recall any trauma. There were no detectable signs of abrasion during mastication.



Figure-2: Preoperative periapical radiograph showing a large radiolucent lesion involving apices of maxillary left lateral incisor and canine.

The tooth had not been exposed to endodontic treatment previously, and exhibited normal response to electrical pulp testing. There was no tenderness on palpation sensitivity to percussion, nor pathological probing depths. Preoperative periapical and panoramic radiographs revealed a large well- defined radiolucent lesion with

apparent displacement of roots of the maxillary left lateral incisor and the canine. The lesion was approximately 3x3 cm in maximum diameter (Fig. 1,2). The radiographic appearance of CGCG is not pathognomonic and may be confused with several other lesions of the jaws, such as brown tumor of hyperparathyroidism, fibrous dysplasia, aneurismal bone cyst, and other fibro-osseous lesions.⁷

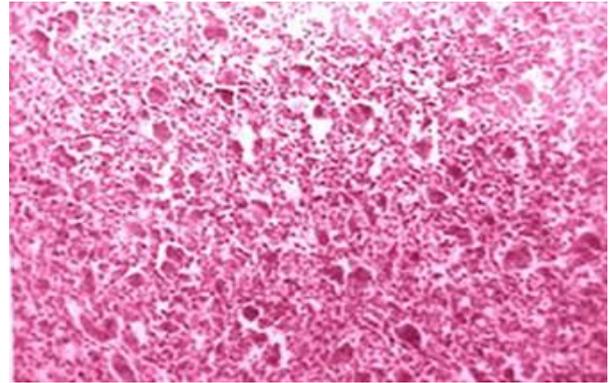


Figure-3: Histopathological appearance of lesion: Multinucleated giant cells are seen in the section.

The lesion was surgically removed in January 2007 by enucleation which was carried out under local anesthesia. Histopathologically, presence of numerous multinucleated osteoclast-like giant cells in highly vascular stroma was observed (Fig. 3). These giant cells were characterized by plump and blunt ended spindle-shaped cells. In addition, they had clustered around areas of hemorrhage. Various proportions of dystrophic calcification and metaplasia with ossification were noticed in stroma in some areas.

The recovery period was uneventful, due to the aggressively nature of the lesion. After surgical treatment, sensitivity to electrical pulp testing was carried out during follow-up period. After 8 months, a new swelling appeared and pulp necrosis of left maxillary canine developed, while other adjacent teeth responded within normal limits to electric pulp test. Orthograde root canal treatment was performed in the canine.

The hematological and biochemical test results were within normal limits. These tests were performed in order to eliminate the possibility of hyperparathyroidism. A fine needle aspiration biopsy confirmed of recurrent giant cell granuloma. A course of deep curettage and intralesional corticosteroid injections were planned after getting the patient's consent.

The mass was deeply enucleated to eliminate the possibility of lesion. After that, corticosteroids (½ ml Kenacort A ® (Triamcinolone acetone) and ½ mL Jetokain® (Lidocain 2%)_from a mixture of 5 ml, about 25 mg equivalent, for pediatric patients) was injected within the cavity of during the session. The injection was repeated once a week for 6 weeks following the surgery.^{3,6}

The lesion and left maxillary canine were stable and asymptomatic at the follow-up examination after 7 years. Left maxillary lateral with root resorption has remained vital. The post-operative periapical and panoramic radiographs showed significant resolution of the radiolucent lesion (Fig. 4,5). There was no recurrence of the lesion.

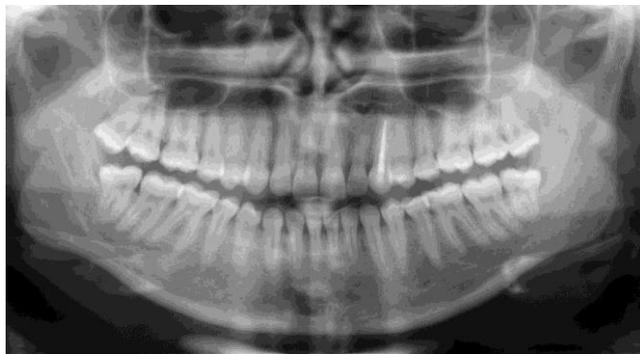


Figure-4: Postoperative panoramic radiograph showing significant healing of CGCG seven years after completion of endodontic and resurgical treatment.

DISCUSSION

CGCGs are non-odontogenic benign lesions, which can cause root resorption, displacement of the teeth, pain or paresthesia, and have a high recurrence rate.⁸ Accurate diagnosis is important for proper treatment, but generally, non-odontogenic lesions are misdiagnosed as apical periodontitis.⁹ All these radiologic findings and clinical symptoms of CGCG except paresthesia were observed in our case. The teeth responded positively to the pulp vitality tests. Therefore, the initial diagnosis was “non odontogenic cyst” and was unlikely to be resolved by root canal treatment.¹⁰

Histological diagnosis of CGCG of, the recurrence occurred eight months after surgery. The pulp necrosis of canine was detected, which was presumably caused by the CGCG; and root canal treatment was performed. In pre- and post-operative clinical examination, especially for the intact teeth, examining the pulp vitality is essential. However, in many cases, post-operative pulp vitality test’s results are not reported.^{1, 2, 5, 9}

Aggressive lesions are characterized by their ability to destroy bone, resorb teeth and displace anatomical structures, such as teeth, the mandibular canal, and the floor of maxillary antrum.⁷ The lesion in the present case showed an aggressive character due to same features as stated in literature.

Surgical excision is conservative surgical approach of CGCG, depending upon the size and location of the lesion. The scope of surgery ranges from simple excision and curettage to en- bloc resection and reconstruction .¹¹ When an extensive surgical therapy is performed loss of teeth and tooth germs, and/or disturbances of the inferior alveolar nerve may be encountered. Additionally, systemic application of calcitonin, intralesional injections of corticosteroid and subcutaneous α -interferon, and laser therapy are among the alternative treatment options for giant cell lesions.^{4,6,12}

The utilization of corticosteroids for treatment of CGCG was described by Jacoway et al.⁴ as a method that is nonsurgical and can be performed on an outpatient basis. Considering that topical application delivers a high concentration of the medication in the tissue,¹³ intralesional injection of the corticosteroid is preferred to systemic administration. Moreover, this injection technique both protects vital structures and prevents large defects of the jaws in large lesions.⁶ According to the experimental evidence, intralesional steroids affects the treatment of CGCGs, via inhibition of the extracellular production of lysosomal proteases, steroidal apoptotic action on osteoclast-like cells or inhibition of transcription factors for intracellular proliferation.⁶



Figure-5: Posttreatment periapical radiograph demonstrates adequate healing.

Terry and Jacoway were recommended for the treatment of CGCGs, a weekly intralesional injection of a mixture of triamcinolone acetonide and a local anesthetic (marcaine 0.5% with epinephrine 1:200000), within six weeks.¹⁴ We used same intralesional corticosteroid therapy protocol in our study.

Disadvantages with intralesional steroid treatment are associated with the long treatment time, patient compliance and any systemic effects associated with the steroids used.¹⁵ However, no side effects were observed in this study.

This successful treatment in combination surgery and intralesional corticosteroid injection can greatly reduce the aggressive lesion. We believe that the patient avoids larger surgical procedures and cosmetic defects with this conservative approach.

KAYNAKLAR

1. Tosco P, Tanteri G, Iaquina C, Fasolis M, Rocchia F, Sid Berrone, Garzino-Demo P. Surgical treatment and reconstruction for central giant cell granuloma of the jaws: A review of 18 cases. *J Cranio-Maxillofac Surg* 2009;37:380-387.
2. Kruse-Lösler B, Diallo R, Gaertner C, Mischke K, Joos U, Kleinheinz J. Central giant cell granuloma of the jaws: A clinical, radiologic, and histopathologic study of 26 cases. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2006;101:346-354.
3. Carlos R, Sedano HO. Intralesional corticosteroids as an alternative treatment for central giant cell granuloma. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2002;93:161-166.
4. Lange J, Akker HP, Berg H. Central giant cell granuloma of the jaw: A review of the literature with emphasis on therapy options. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2007;104:603-15.
5. Gunel C, Erpek G, Meteoglu I. Giant cell reparative granuloma in the hard palate. *Int J Pediatr Otorhinolaryngol Extra* 2007;2:76-79.
6. Nogueira RLM, Teixeira RC, Cavalcante RB, Ribeiro RA, Rabenhosrt SHB. Intralesional injection of triamcinolone hexacetonide as an alternative treatment for central giant-cell granuloma in 21 cases. *Int J Oral Maxillofac Surg* 2010.doi:10.1016/j.ijom.2010.06.015. pg:1-7.
7. Stavropoulos F, Katz J. Central giant cell granulomas: A systematic review of the radiographic characteristics with the addition of 20 new cases. *Dentomaxillofac Radiol* (2002) 31, 213-217.
8. Whitaker SB, Waldron CA. Central giant cell lesions of the jaws. A clinical, radiologic, and histopathologic study. *Oral Surg Oral Med Oral Pathol* 1993;75:199-208.
9. Pontes FSC, Fonseca FP, Souza de Jesus A, Alves A C G, Araujo L M, Silva Do Nascimento L, Pontes HAR. Nonendodontic lesions misdiagnosed as apical periodontitis lesions: Series of case reports and review of literature. *J Endod* 2014;40:16-27.
10. Nair PNR, Pajoarola G, Schroeder HE. Types and incidence of human periapical lesions obtained with extracted teeth. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 1996;81:93-102.
11. Farrier SL, Farrier JN, Smart MK, Nash ES. A 10-year review of the occurrence and treatment of central giant cell granulomas, in a District General Hospital. *J Oral Pathol Med* 2006;35:332-337.
12. Motamedi MHK, Eshghyar N, Jafari SM, Lassemi E, Navi F, Abbas FM, Khalifeh S, Eshkevari PS. Peripheral and central giant cell granulomas of the jaws : A demographic study. *Oral Surg Oral Med Oral Pathol Oral Radiol Endod* 2007;103:e39-e43.
13. Adornato MC, Paticoff K. Intralesional corticosteroid injection for treatment of central giant-cell granuloma. *J Am Dent Assoc* 2001;132:186-190.
14. Terry BC, Jacoway JR. Management of central giant cell lesions: an alternative to surgical therapy. *Oral Maxillofac Surg Clin N Am* 1994;6:579-601.
15. Khafif A, Krempel G, Medina JE. Treatment of giant cell granuloma of the maxilla with intralesional injection of steroids. *Head Neck* 2000; 22: 822-825.

Yazışma Adresi:

Dr. Aylin ÇALIŞ
EÜ Diş Hekimliği Fakültesi Ağız, Diş ve Çene Cerrahisi AD
Bornova İzmir
Tel : 0 232 388 11 08
E-posta : aysipahi@gmail.com