GINGIVAL CYST OF ADULTS- TWO CASE REPORTS AND LITERATURE REVIEW

Elitsa Deliverska¹, Aleksandar Stamatoski²
1) Department of Oral and Maxillofacial Surgery, Faculty of Dental Medicine, Medical University – Sofia, Bulgaria.
2) Department of maxillofacial surgery, Faculty of Dental Medicine, Ss. Cyril and Methodius University- Skopje, Macedonia.

ABSTRACT
Background: Gingival cyst of adult is an uncommon, small, non inflammatory, extra-osseous, developmental cyst of gingiva arising from the rests of dental lamina.

Purpose: The aim of our paper is to present two rare clinical cases of gingival cyst of adult.

Material and methods: In the present cases, the combined anatomic characteristics of the soft tissue presentation and the osseous defect suggest that the lesion is a gingival cyst of adult. Two cases of gingival cyst were diagnosed and treated with excisional biopsy followed by histopathological confirmation and an emphasis on the clinical aspects of this lesion.

Results: The biopsy revealed histologic features consistent with a gingival cyst. Clinical and radiographic examinations 1 year post-surgery indicated uneventful soft tissue healing and bone fill of the initial defect.

Conclusion: Gingival cyst most commonly occurs on the labial side of the mandible in the canine and premolar areas. It is discrete, well-circumscribed, painless swelling of the attached gingiva or gingival papilla. These lesions measure about 0.5 to 1 cm in diameter. They are often bluish or blue-gray due to thinning of the overlying mucosa. In some instances, the cyst may cause slight erosion of the surface of the bone, which is usually not detected on a radiograph but is apparent during surgical exploration.

If more bone is missing, one could argue that the lesion may be a lateral periodontal cyst that has eroded the cortical bone rather than a gingival cyst that originated in the mucosa.

The gingival cyst of adults has no radiographic evidence of bone resorption, and only a reduced KVP potential exposed periapical radiograph will show its soft tissue density. Where the radiolucency is dark and sharply demarcated, then communication with the periodontium is indicated, and the lesion is more likely to be a lateral periodontal cyst that has eroded outwards.

Histopathologic features
The diagnosis of gingival cyst of the adult should be restricted to lesions with the same histopathologic features as those of the lateral periodontal cyst.

The lining is usually thin, resembling reduced enamel epithelium, and may have plaque-like thickenings. Small nests of these glycogen-rich clear cells may also be present. Sometimes the lining may be a stratified squamous epithelium without rete ridges, and occasionally it is keratinized.

Differential diagnosis include lateral periodontal cyst, periodontal abscess, mucocele, fibroma, peripheral ossifying fibroma, neurofibroma etc.

The gingival cyst of the adult responds well to simple surgical excision. The prognosis is excellent. Recurrence is not seen.

In this paper, we describe two cases of gingival cyst of adults.
of the adult, located in the alveolar mucosa on the facial aspect of the mandibular lateral incisor-canine/ canine -first premolar region. [7, 8, 9, 10]

CASE REPORTS

Case 1

45-year-old female patient presented at the Department of Oral and Maxillofacial surgery, Medical University - Sofia, with a complaint of a swelling in the gum on the left side of the lower jaw dating from six to seven months prior to presentation. The gingiva in this area was apparently normal before the appearance of the lesion according to patient. She could not recall any recent trauma, pain, or discharge from the swelling or an increase in the size of the lesion. Medical history was non-significant, and the patient was not on any medication at that time.

During intraoral examination, a smooth round nodule approximately 5 mm in diameter was observed. It was located on the attached gingiva in relation to the lower left canine and lateral incisor extending inferiorly up to the mucogingival junction.

Fig. 1. Clinical presentation of the lesion in frontal region of lower jaw gingiva.

The nodule was non - tender, soft, and cystic in consistency, fluctuant and non-compressible (fig.1). Probing of the adjacent teeth yielded pocket depths of 2-3 mm with all sites exhibiting bleeding on probing, without any communication between the sulci of the adjacent teeth and the lesion. Pulp testing of the canine and lateral incisor indicated that both were vital. Radiographically, there was no finding suggestive of osseous involvement. Based on the clinical and radiographic findings, the provisional diagnosis of cystic lesion of the gingiva was made. The differential diagnosis included a lateral periodontal cyst, peripheral fibroma and odontogenic keratocyst. Lateral periodontal cyst was ruled out because there was no radiographical finding suggesting of osseous involvement; peripheral fibroma was ruled since the lesion was soft and cystic in consistency and odontogenic keratocyst was ruled out since the lesion was not associated with pain or localized expansion of bone, and again radiographically there was no osseous involvement. The treatment plan included scaling, root planning, re-evaluation, and excisional biopsy of the lesion. Anesthesia was obtained with local infiltration. Excision of the lesion was performed with scalpel. The surgical specimen measuring 5 x 5 mm was placed in 10% neutral buffered formalin. After removal of lesion, the area was irrigated with sterile saline and Iodine povidon 10 % solution. We achieved primary closure secured with a 3/0 black silk suture. Gentle pressure was applied with wet gauze to achieve hemostasis, and the wound was covered with a Parodium gel. The patient was given postoperative instructions and was dismissed with prescription for an analgesic (tab Ibuprofen-400 mg every eight hours), antibiotic (Amoxicillin-1.0 g - 2x1 for five days) and antimicrobial rinse (Tantum verde spray- twice a day for one week). Postoperative period was without any complications.

Case 2

A 64 years old male patient referred to our department for multiple tooth extractions. Prior to this visit, the patient had not received dental care for more than 10 years. During the intraoral examination, a lesion with clinical characteristic of gingival cyst was found on the vestibular mandibular gingiva between 33 and 34 teeth (fig.2).

Fig. 2 Clinical presentation of the lesion.

The lesion was nodular with a sessile base, nonulcerated, or painful; it was normal in colour and measured 5.0 mm in diameter. An excisional biopsy under local anesthesia was performed, and surgical exploration revealed osseous surface erosion. (fig. 3, 4)
DISCUSSION

The presented cases documented examples of gingival cyst of adult treated with excisional biopsy. The outward appearance of a gingival cyst of adult is typically an oval-to-round, firm, elevated swelling located on the attached gingiva. Commonly they are <5 mm in diameter, but lesions >5 cm can also be seen.[3] The lesions often demonstrate little or no change in colour in the overlying mucosa, but some appear bluish due to the cystic fluid. Eighty percent are found in the mandible, with the most common site being the canine-premolar area. The gingival cyst of adult is believed to be of odontogenic derivation, specifically from the remnants of ectodermic tissue.[11] The gingival cyst of adult is not related to any inflammatory lesion, and the associated teeth when tested are vital. The radiograph does not accurately depict the topography of this soft tissue-originating cyst, as the cyst may involve the alveolar bone surface and can often compromise the buccal or lingual plate with a shallow 2 2 saucer-like 2 2 defect. [12] Root exposure associated with this lesion is an extremely rare finding. Gingival cyst of adult is routinely treated with excisional biopsy and has a rare chance of recurrence. The differential diagnosis of gingival cyst of adult includes several lesions presenting as gingival swellings such as a lateral periodontal cyst and peripheral fibroma. The lesion that may be more difficult to differentiate is the lateral periodontal cyst, especially in the presence of both radiographic and gingival involvement. [3, 14, 15] This is because both lateral periodontal cyst and gingival cyst of adult are non-inflammatory cystic lesions, typically present in the mandibular canine-premolar area, and share similar histopathological characteristics.[5, 16] In the present cases, the combined anatomic characteristics of the soft tissue presentation and the osseous destruction in second case suggest that the lesion was gingival cyst of adult.

There is a great deal of confusion about the relationship between the gingival cyst of adults and the lateral periodontal cyst, much of which appears to have arisen because both types of cyst have a predilection for occurrence in the canine and premolar area of the mandible and, less frequently, in the maxilla. The pathogenesis of these cysts, particularly with regard to the cells of origin, is also far from clear.

On the basis of the clinical and morphological similarities between the two cysts, it is believed that they have a common histogenesis and probably the same epithelial origin and that they represent the intra-osseous and extra-osseous manifestations of the same lesion. [14, 15, 17, 18, 19]

It is considered to represent the soft tissue (the extra-osseous) counterpart of the intra-osseous lateral periodontal cyst. Gingival cysts of the adult are thought to arise from dental lamina rests or from entrapment of surface epithelium. [5,13]
CONCLUSION
The gingival cyst of adult is a unique pathologic lesion of the oral cavity, typically localized in the mandibular canine and premolar region, appearing in adults in their fourth to fifth decades of life. Associated osseous involvement occurs <50% of cases and is often undetectable radiographically. Treatment by excisional biopsy is definitive. Exposure of the tooth root is an extremely rare feature of the gingival cyst of adult; in such cases, as in the present report, a combined regenerative treatment approach may be used to achieve resolution of the lesion-associated osseous defect and the excisional biopsy-associated soft tissue defect.

REFERENCES:
1. Greenberg M, Glick M. Burkett’s oral medicine Diagnosis and treatment; tenth edition; 2003 BC Decker Inc.
3. Shear M, Speight P. Cysts of the oral and maxillofacial regions. 4th ed., Blackwell Publishing Ltd

Address for correspondence:
Elitsa Georgieva Deliverska, Associate Professor,
Department of Oral and Maxillofacial surgery, Faculty of Dental Medicine, Medical University Sofia,
1, Georgi Sofiiski Blvd., 1431 Sofia, Bulgaria.
E-mail: elitsadeliverska@yahoo.com

Please cite this article as: Deliverska EG, Stamatoski A. Gingival cyst of adults- two case reports and literature review. J of IMAB. 2018 Apr-Jun;24(2):2065-2068. DOI: https://doi.org/10.5272/jimab.2018242.2065

Received: 28/02/2018; Published online: 21/06/2018