

Granuloma Telangiectaticum with Ossification: A Case Report

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ABSTRACT

In this case report, a 36- year- old female patient reported a chief complaint of difficulty in chewing and speaking due to growth present on the left upper front and extending to the posterior tooth region and towards the palatal side associated with mobile teeth. On correlating the history given by the patient and on clinical & radiological examination the provisional diagnosis was made "Granuloma telangiectaticum". Growth was surgically excised with a BIOLASE laser under local anesthesia and excised tissue sent for histopathological examination. The final diagnosis after the clinical and histopathological examination was made "Granuloma telangiectaticum with ossification".

Keywords: Pyogenic Granuloma, Ossification, Granuloma Telangiectaticum.

INTRODUCTION

Granuloma telangiectaticum is a common tumor-like growth of the oral cavity that is considered to be a non-neoplastic nature, arising commonly as a result of constant low-grade trauma and poor oral hygiene and hormonal disturbances[1]. It presents with soft, fleshy, easily bleeding mass[2]. In present case report, it is firm and non- bleeding mass present. Initially it shows rapid growth and then remains static in size[2]. Commonly found in interdental gingiva, and buccal mucosa[2]. In present case report, lesion was present on interdental papilla but extending towards palate and size was extending from anterior tooth region to posterior tooth region. Clinically, it resembles peripheral ossifying fibroma, squamous cell carcinoma[2]. Radiographically, it mimics malignancy. Histologically, it resembles lobular hemangiomas, and fibroma. Presence of numerous endothelium-lined vascular spaces, mixed inflammatory cell infiltration, proliferation of fibroblasts and budding endothelial cells are characteristic features of Granuloma telangiectaticum[4]. Ossification in Granuloma telangiectaticum is not common[3]. However some studies shows rare cases of Granuloma telangiectaticum exhibiting calcification[10]. In present case report there is also histopathological examination revealed presence of ossification in deeper areas. To avoid recurrence it should be excised deep to the periosteum[2].

CASE REPORT

A 36-year-old female patient reported in our department with a chief complaint of difficulty in chewing and speaking due to the presence of painless growth on the left upper front and extending to the posterior tooth region and towards the palatal side associated with mobile teeth for 1 month. Growth started 1 month ago as a small pea size and gradually increase in size with time to attain the present size. There was no associated history of bleeding or pain. The patient was hypertensive and was on medication for the same. She had worn a fixed partial denture in the upper front tooth region for 1 year but before coming here she got it removed and also had worn a removable partial denture in the lower front tooth region for 1 year.

An intraoral examination revealed an approximately 28 × 30 mm sessile, non-tender, firm on palpation, pale pink in color growth present on the alveolar ridge about to with concerning distal surface of maxillary left lateral incisor to mesial surface of maxillary left second premolar region extending towards palate and upto the level of occlusal surface causing occlusal interference. Pathological migration of 22, 23, 24. Panoramic radiograph showed displacement of tooth w.r.t 22, 23, 24 with the presence of extensive bone resorption w.r.t 22, 23, 24, 25.

Figure 1: Intraoral picture of the lesion



Figure 2: Intraoral picture of the lesion



Figure 3: OPG radiograph showing displacement of tooth w.r.t 22, 23, 24 with the presence of extensive bone resorption w.r.t 22, 23, 24, 25.



On correlating the history given by the patient and on clinical & radiological examination the provisional diagnosis was made "Granuloma telangiectaticum". After blood investigations, the

extraction of involved teeth (22, 23, 24, 25) and surgical excision of the lesion under local anesthesia using a BIOLASE laser to avoid bleeding, and a gauze pack was given. The patient was given postoperative instructions (advice to maintain oral health) and was prescribed analgesics (tablet – Combiflam thrice a day every 4-6 hours as needed for pain) and antibiotics (Capsule - Amoxicillin 500 mg thrice a day every 6 hours) for 3 days.

Figure 4: post-operative picture



She was recalled for follow-up on the 3rd, 1 week, 2 weeks and after this every one or two months till 6 months completed, no recurrence is reported till now. The excised tissue was placed in 10% neutral buffered formalin and the lesion was sent for histopathological examination. Histopathological examination showed thin stratified squamous epithelium with flattened epithelium, connective tissue junction. The underlying connective tissue shows numerous blood vessels, proliferating endothelial cells, and dense chronic inflammatory infiltrate predominantly lymphocytes and plasma cells. Deeper areas show calcification exhibiting osteocytes within the lacuna. The final diagnosis after the clinical and histopathological examination was made "Granuloma telangiectaticum with ossification".

Figure 5: post-operative picture on 3rd day.



Figure 6: Post-operative picture on the 7th day.



DISCUSSION

Among other reactive lesions, Granuloma telangiectaticum has been described as between 26.8% and 32%[1]. It is reported to occur in almost all age groups, but mainly between 11 and 40 years with peak incidence in 30 years[1]. A study by Skinner et al. revealed that females are most commonly affected than males with a ratio of 3:2 respectively[1].

Clinically, Granuloma telangiectaticum are asymptomatic, slow-growing, painless lesions[3]. Often ranging from a few millimeters to several centimeters in size[3]. These lesions present as pedunculated or sessile masses[3]. Depending on vascularity and course of lesions its colour may vary from pinkish to reddish in appearance[3]. In the present case, the lesion presented as a pinkish sessile lesion.

Granuloma telangiectaticum commonly occurs on the gingiva and is more common in the maxillary anterior region than the posterior region[3]. In the present study it is present in the interdental gingival of the upper anterior tooth region to the posterior tooth region and extending towards the palate. Other extra gingival locations have also been reported that are buccal mucosa, lips, tongue, and palate[3].

Microscopic presentation of Granuloma telangiectaticum in general shows exuberant granulation tissue covered by atrophic/hyperplastic epithelium that may be ulcerated at times and fibrinous exudates[4]. Presence of numerous endothelium-lined vascular spaces, mixed inflammatory cell infiltration, proliferation of fibroblasts and budding endothelial cells are characteristic features of Granuloma telangiectaticum[4].

In addition to this histopathological presentation, there are also some areas of calcification in the form of bony trabeculae and basophilic calcifications[3]. Calcifications in the form of bony trabeculae are not frequently seen in Granuloma telangiectaticum and are not a characteristic finding of Granuloma telangiectaticum, rather such calcifications are seen in peripheral ossifying fibroma[3].

Progesterone has been seen to influence osteoblasts to lay down osteoid tissue[3]. Godinho et al. reported a case of evolution of peripheral ossifying fibroma from previously diagnosed Granuloma telangiectaticum as a mineralized component started showing signs of calcified material and fibrous maturation[5]. Dermawan et al., observed three cases of Granuloma telangiectaticum with metaplastic ossification. In all cases, the lesions occurred on the digits, particularly in or around the nail bed[10]. Inflammation or a low oxygen environment may also lead to osteoblast differentiation and the formation of bone[3].

Local factors calcium and phosphorus ions, and pH may also influence ossification[3]. Osteopontin has a high calcium binding potential and could also be a contributing factor for ossification[3]. In a study by Elanagai R et al., showed stromal fibroblast within the Granuloma telangiectaticum shows osteopontin[3]. Narwal A and Bala S have also proposed that inflammation in Granuloma telangiectaticum induces the release of cytokines which stimulate osteogenic differentiation of the cells and thereby contribute to ossification or the mineralization process[3]. They observed positive osteopontin around blood vessels and in the stroma which justifies the occurrence of calcifications[3].

In the present study, histopathological examination showed thin stratified squamous epithelium with flattened epithelium, connective tissue junction. The underlying connective tissue shows numerous blood vessels, endothelial cells, and dense chronic inflammatory infiltrate predominantly lymphocytes and plasma cells. Deeper areas show calcification exhibiting osteocytes within the lacuna. The final diagnosis after the clinical and histopathological examination was made "Granuloma telangiectaticum with ossification".

Initially, there was a misconception about the etiology of Granuloma telangiectaticum that it is a mycotic infection contracted from horses[1]. Later on it was labeled as a condition resulting from purulent change within benign intra-oral tumors[1]. Now Granuloma telangiectaticum is a lesion developed as an exaggerated localized connective tissue reaction to minor injury or irritation[1].

The first occurrence of Granuloma telangiectaticum in a man named Poncet and Dor was reported in 1897[4]. It was called botryomycosis hominis at that time[4]. Term Granuloma telangiectaticum was coined by Hartzell in 1904[4]. Various other names are Pyogenic Granuloma, Granuloma pediculatum benignum, benign vascular tumor, pregnancy tumor, vascular epulis, Crocker and Hartzell's disease[4].

Jafarzadeh et al. explained that oral Granuloma telangiectaticum occurs due to irritation or minor injury[6]. Ainamoto et al. suggested that the cause of the lesion is repetitive toothbrush trauma to the gingival[6]. There can be an increased prevalence of this lesion during pregnancy due to a hormonal imbalance between estrogen and progesterone[6].

There are three phases of growth of Granuloma telangiectaticum described by Sternberg et al. namely, 1. Cellular phase 2. Vascular phase 3. Involuntary phase[6]. These phases can be correlated with the clinical presentation of the lesion as initial phases the masses are reddish blue and older lesions are pale to pink[6].

Differential diagnosis includes irritational fibroma, peripheral giant cell granuloma, peripheral ossifying fibroma, benign salivary gland tumor, non-Hodgkin's lymphoma, hemangioma, Kaposi's sarcoma, leiomyoma, amelanotic melanoma, basal metastatic carcinoma, and squamous cell carcinoma[6].

Cawson et al have explained that based on the rate of proliferation and vascularity there are two histopathological types: 1. lobular capillary hemangioma and 2. non-lobular capillary hemangioma[6]. But these lesions are not true hemangiomas[6].

The term "Granuloma telangiectaticum" is confusing because the etiopathogenesis of this lesion is not infectious[7]. It is fundamental in the presence of these lesions to evaluate the possible differential diagnoses with histological examinations[7].

Management of Granuloma telangiectaticum includes surgical excision deep to periosteum and removal of aetiologic factors[3]. Other treatment modalities are Nd: YAG laser, flash lamp pulsed dye laser, cryosurgery, intra-lesional injection of ethanol or corticosteroid, and sodium tetradecyl sulfate sclerotherapy[6]. Recurrence may occur due to incomplete excision and failure to eliminate aetiologic factors[6].

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