

## PYOGENIC GRANULOMA OF THE HARD PALATE

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### PRESENTATION OF THE CASE

Pyogenic granuloma (PG) is an inflammatory hyperplasia involving a large range of nodular growths of the oral mucosa.<sup>1,2</sup> In 1844, Hüllihen described the first case of pyogenic granuloma.<sup>3</sup> Hartzell in 1904 is credited with giving the current term of "pyogenic granuloma" or "granuloma pyogenicum." It was also called a Crocker and Hartzell's disease.<sup>4</sup> Cawson et al<sup>5</sup> described it as "granuloma telangiectaticum" due to the presence of numerous blood vessels seen in histological sections. Two forms of pyogenic granulomas, the lobular capillary haemangioma (LCH) and the non-lobular capillary haemangioma (non-LCH).<sup>6</sup> Although it is a common disease in the skin, it is rare in the gastrointestinal tract, except for the oral cavity,<sup>7</sup> and it is mostly found in keratinized mucosa.<sup>8</sup>

In this article we report an unusual case of extragingival pyogenic granuloma of the hard palate. A 17-year-old male patient with juvenile diabetes mellitus came to ENT OPD of SIMS and presented with a 2 x 2 cm swelling over hard palate that had progressed over 4 months. The lesion was bosselated, raised globular, with regular margins, yielding on touch which confirmed its non-pedunculated nature, was insensitive to pain and didn't bleed on touch, pale reddish in colour. The surface was smooth no ulcerations were seen and was ovoid in shape (Fig 1). The lesion was associated with recurrent bleeding and occasional pain. Based on the lesions' clinical appearance and other characteristics (Slow progression, lack of lymphadenopathy) A provisional diagnosis of minor salivary gland adenoma or capillary hemangioma was made. The differential diagnosis included pyogenic granuloma, peripheral ossifying fibroma, peripheral giant cell granuloma, haemangioma and fibroma. Patient was juvenile diabetic on insulin 12 units morning and 12 units, RBS monitored for a week normal 98 mg/dl before surgery, PPBS; till 140 mg/dl, CBC within normal range, FNAC showed inflammatory cells the mass was excised perorally with a 0.5 cm margin of healthy mucosa and followed by cauterisation of the base. The wound was closed by rotation flaps with 3/0 vicryl suture and specimen send for histopathology (Figure 2). Histopathology showed areas of parakeratinized epithelium and connective tissue

showing, inflammatory cells, large proliferating capillaries surrounded by granulation tissue, collagen fibers. And insignificant mucinous acinar cells and a diagnosis of PG was made. (Figure 2). Wound healed well after 7 post op days (Figure 3) and showed no recurrence for a follow up of 1 year.

### DIFFERENTIAL DIAGNOSIS

Angioendothelioma, Angiosarcoma, Granulation Tissue, Haemangioendothelioma, Intravascular Papillary Endothelial Hyperplasia (Masson Tumor), Spitz Nevus, Tufted Haemangioma, Neurofibroma, Cutaneous Endometriosis, Eccrine Poroma, Acquired Digital Fibrokeratoma, Acral Angio-Osteoma Cutis, Anaplastic Large Cell Lymphoma, Angiolymphoid Hyperplasia with Eosinophilia, Atypical Fibroxanthoma, Basal Cell Carcinoma, Cherry Haemangioma, Cutaneous Melanoma, Cutaneous Squamous Cell Carcinoma, Dermatologic Manifestations Of Metastatic Carcinomas, Dermatologic Manifestations Of Sebaceous Carcinoma, Epulis Fissuratum, Giant Cell Tumor Of Tendon Sheath, Kimura Disease, Metastatic Neoplasms to the Oral Cavity, Milker's Nodules, Peripheral Giant Cell Granuloma, Peripheral Ossifying Fibroma, Haemangioma, Pregnancy Tumor, Hyperplastic Gingival Inflammation, Kaposi's Sarcoma, Bacillary Angiomatosis, Angiosarcoma, and Non-Hodgkin's Lymphoma.<sup>9</sup>

### CLINICAL DIAGNOSIS

Pyogenic granuloma is relatively common, representing 0.5% of all skin nodules in children. It appears to be similar in all races and are equally prevalent in male and female patients, though oral mucosal lesions are twice more common in females, likely due to the pregnancy tumor phenomenon. The peak age of onset for cutaneous lesions is the second decade of life.<sup>10</sup> Trauma, hormonal influences, certain medications, viruses, underlying microscopic arteriovenous malformations, the production of angiogenic growth factors, cytogenetic abnormalities and overexpression of transcription factors P-ATF2 and STAT3 also may play a role in angiogenesis in PG.<sup>11</sup> Regezi et al.,<sup>12</sup> suggested that pyogenic granuloma is caused by repeated trauma to the gingival or known stimulant or injury such as calculus or foreign material within the gingival crevice resulting in exuberant proliferation of connective tissue. Oral PGs occur primarily in the gingiva in 75% of cases, uncommonly it can occur extragingivally on the lips, tongue, buccal mucosa or palate.<sup>12</sup> It appears as an elevated sessile or pedunculated growth covered with red haemorrhagic and erythematous papules and show ulcerations and is covered by a fibrinous membrane.<sup>12,13</sup> The colour varies from red, purple pink, depending on the vascularity of the growth.

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Clinically, the lesion can be slow-growing, asymptomatic and painless, but it may also grow rapidly sometimes.<sup>13</sup> Radiographic findings are usually absent.<sup>14</sup> Histopathologically, it can be classified as an LCH and non-LCH.<sup>13</sup> The LCH type has proliferating blood vessels organized in lobular aggregates, with larger blood vessels were noted. The non-LCH type consisted of a vascular core resembling granulation tissue with foci of fibrous tissue. Sato et al.,<sup>15</sup> described most oral pyogenic granulomas as the LCH type.

In this case, patient is 17-year-old juvenile diabetic developed PG mostly due to immunity factors, repeated trauma, poor oral hygiene and frequent medication,<sup>11,12</sup> and presented with a 2 x 2 cm swelling over hard palate that had progressed over 4 months. The lesion was bosselated, raised globular, with regular margins, yielding on touch which confirmed its non-pedunculated nature, was insensitive to pain and didn't bleed on touch, pale reddish in colour. The surface was smooth no ulcerations were seen and was ovoid in shape (Figure 1). The lesion was associated with recurrent bleeding and occasional pain. The biopsy report in this case shows a rare scenario of areas of parakeratinized epithelium and connective tissue showing, inflammatory cells, large proliferating capillaries surrounded by granulation tissue, collagen fibers and insignificant mucinous acinar cells which led to the diagnosis of PG.



Figure 1

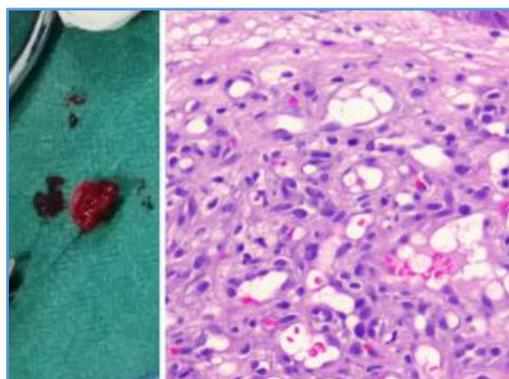


Figure 2

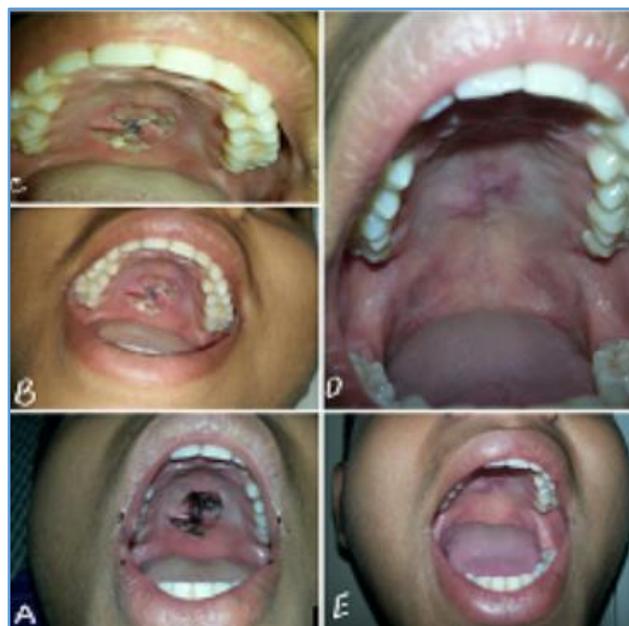


Figure 3

**DISCUSSION OF MANAGEMENT**

Surgical excision and biopsy of the lesion is the recommended treatment. Various other treatment modalities include Nd:Yttrium-Aluminium-Garnet lasers, carbon dioxide lasers, flash lamp, pulse dye laser, cryosurgery, sodium tetradecyl sulphate sclerotherapy<sup>16</sup> and use of intralesional steroids in some cases.

In this case excision with a 0.5 cm margin of healthy mucosa and followed by cauterisation of the base and wound was closed by rotation flaps and wound healed in 7 post-operative days and subsequently re-epithelialised completely in a period of 2 months (Figure 3). Among surgical options, full-thickness skin incision appears to yield the lowest chance of recurrence (2.94%).<sup>17</sup> A recurrence of 16% of these lesions have been reported mostly due to incomplete excisions or failure of removal of etiological factors.<sup>11</sup> Recurrences after surgery of extragingival pyogenic granuloma is however uncommon. In this case patient no recurrence for a follow up of 1 year. Since the patient was a juvenile diabetic, on second post-operative day of surgery patient went into diabetic ketoacidosis which was managed in coordination with the Department of Medicine. Also, being prone to more infections patient may develop a fungal granuloma which may cause erosion of the bones causing perforation in the hard palate. Pyogenic granuloma is a common lesion of the gingival but uncommon in palate and that too in 17-year-old juvenile diabetic therefore dealing such cases, extensive control of diabetes and management of complications arising out of diabetes and infections have to be taken into consideration.

**REFERENCES**

[1] Greenberg MS, Glick M. Burket's oral medicine: diagnosis and treatment. 10<sup>th</sup> edn. BC Decker 2003:130-134.

- [2] Eversole LR. Clinical outline of oral pathology: diagnosis and treatment. 3<sup>rd</sup> edn. Hamilton: BC Decker 2002:113-114.
- [3] Hullihen SP. Case of aneurism by anastomosis of the superior maxillae. *Am J Dent Sci* 1844;4:160-162.
- [4] Hartzell MB. Granuloma pyogenicum. *J Cutan Dis Syph* 1904;22:520-525.
- [5] Cawson RA, Binnie WH, Speight PM, et al. Lucas pathology of tumors of oral tissues. 5<sup>th</sup> edn. Missouri: Mosby 1998:252-254.
- [6] Akyol MU, Yalciner EG, Dogan AI. Pyogenic granuloma (lobular capillary hemangioma) of the tongue. *Int J Pediatr Otorhinolaryngol* 2001;58(3):239-241.
- [7] Yao T, Nagai E, Utsunomiya T, et al. An intestinal counterpart of pyogenic granuloma of the skin. A newly proposed entity. *Am J Surg Pathol* 1995;19(9):1054-1060.
- [8] Fowler EB, Cuenin MF, Thompson SH, et al. Pyogenic granuloma associated with guided tissue regeneration: a case report. *J Periodontology* 1996;67(10):1011-1015.
- [9] Calonje E, Wilson-Jones E. Vascular tumours: tumours and tumour like conditions of blood, vessels and lymphatics. In: Elder D, Elenitsas R, Jaworsky C, et al, eds. *Lever's histopathology of the skin*. 8<sup>th</sup> edn. Philadelphia: Lippincott-Raven 1997: P. 895.
- [10] Harris MN, Desai R, Chuang TY, et al. Lobular capillary hemangiomas: an epidemiologic report, with emphasis on cutaneous lesions. *J Am Acad Dermatol* 2000;42(6):1012-1016.
- [11] Chen SY, Takeuchi S, Urabe K, et al. Overexpression of phosphorylated-ATF2 and STAT3 in cutaneous angiosarcoma and pyogenic granuloma. *J Cutan Pathol* 2008;35(8):722-730.
- [12] Regezi JA, Sciubba JJ, Jordan RCK. Oral pathology: clinical pathological considerations. 4<sup>th</sup> edn. Philadelphia: WB Saunders 2003:115-116.
- [13] Nevile BW, Damm DD, Allen CM, et al. Oral and maxillofacial pathology. 2<sup>nd</sup> edn. WB Saunders 2004:444-449.
- [14] Kamal R, Dahiya P, Puri A. Oral pyogenic granuloma: various concepts of etiopathogenesis. *J Oral Maxillofac Pathol* 2012;16(1):79-82.
- [15] Sato H, Takeda Y, Satoh M. Expression of the endothelial receptor tyrosine kinase Tie2 in lobular capillary hemangioma of the oral mucosa: an immunohistochemical study. *J Oral Pathol Med* 2002;31(7):432-438.
- [16] Jafarzadeh H, Sanatkhani M, Mohtasham N. Oral pyogenic granuloma: a review. *J Oral Sci* 2006;48(4):167-175.
- [17] Lee J, Sinno H, Tahiri Y, et al. Treatment options for cutaneous pyogenic granulomas: a review. *J Plast Reconstr Aesthet Surg* 2011;64(9):1216-1220.