An unusual presentation of Pyogenic granuloma with the patient requiring a blood transfusion

Background - The patient

- 17 year old male- born at term without complication
- Medical History: Autism, Global Development Delay, Learning Difficulties. 15q 11.2 deletion, Bronchial Asthma, Eczema and Sleep Disorder
- Medications: Salbutamol, Beclomethasone inhaler, Diprobase, Ferrous Fumarate
- NODA
- Q/O: Chronic profuse daily bleeding ULO gingiva affecting oral intake leading to recent weight loss
- A and E attendance with hemorrhage from gingiva- causing collapse

Methods - His story begins...

A and E

- Self presented with acute blood loss, collapse, pallor and fatigue
- Spontaneous daily oral bleeding for a few months
- Immediate and self terminating pooling of blood in his mouth making him hesitant to eat and causing significant weight loss.
- At presentation - vital signs- Sinus tachycardia 118, all other signs normal. Normal ECG
- Hb 31 on admission, Microcytic Hypochromic anaemia 40 g/L
- Transfused 4 units of compact red blood cells
- On examination: Frail, euphoyic, esophogic vascular lesion on the upper left alveolus
- Bleeding arrested with local measures, prescribed transemic acid mouthwash
- Referred for urgent CBCT and Consultant review, worsening statement given

Consultant Clinic

- O/E: Mucosal lesion occupying the gingiva and alveolus, surrounding an UL7, Submerging ULE and extending to the ULE. Unerupted UL5 found on OPT
- Urgent CBCT scan report: Abnormal multiple small non corticated radiolucencies and breach of alveolar crest. Potential vascular tumour or arterial malformation, MRI recommended
- Pre and Post contract MRI: No signal voids to suggest AVM, hypertrophic inflammatory mass
- Plan for urgent GA surgery- excisional biopsy, split fit and clinic to ensure modification of plaque control

Theatre

- Urgent theatre: Extraction of upper submerged E’s and excisional biopsy of mass and bone
- Granulomatous lesion around UL6/7 bleed easily on touch and movement
- Bipolar used to arrest bleeding and Vicryl suture to aid closure
- Impressions taken for splint under GA for further review at 3 weeks
- Findings the night guard helpful to stop chewing cheek
- return to a normal diet
- Pre and Post contrast MRI: Hyperintense mass in relation to left maxillary alveolus, no signal voids would suggest AVM

Follow up

- Review 1 week and 3 weeks
- Post-operatively, the patient made an excellent recovery, with resolution of the lesion and return to a normal diet
- He did not require long term antimicrobial management
- Finding the nightguard helpful to stop chewing cheek
- Dad cleaning mouthguard, patient cleaning teeth independently
- OH demonstration around area
- Further review at 3 weeks- healing well emphasised good OH essential to prevent recurrence

Results- Histopathology

Histopathology revealed a pyogenic granuloma colonised with Actinomyces species. No fungal colonisation. Trabecular bone fragment showed some osteoblastic rimming- consistent with bone remodelling.

Microscopy

- Trabecular bone fragment showed some osteoblastic rimming
- Histological sections show oral stratified squamous lined mucosa with a normal gingival lamina propria
- There is evidence of inflammation. This is associated with acute inflammation and hyperemia. There is no evidence of pyogenic granuloma
- “The image shows central partial ulceration with a small granular displaced pseudoepitheliomatous hyperplasia. There is no evidence of malignancy.”

As discussed in the associated diagnoses I note that this lesion is associated with a widespread Differential Diagnosis and the histological features would not rule entirely in keeping with reactive changes and pyogenic granuloma in association with this. There is no evidence of malignancy.

Clinical photo

Clinical presentation: Hypervascular inflammatory lesion. Possibly relates to the unerupted teeth. No bone destruction= not a cyst, pyogenic granuloma or tumour. It underlines the helpfulness of multimodal imaging in directing diagnosis and management. Diagnostic biopsy, extraction and supportive measures to reduce trauma and secondary haemorrhage resolved the lesion and its surprisingly far reaching consequences.

Differential diagnoses

- Inflammatory cyst/gingiva
- Vascular malformation
- Neoplastic lesion

Pyogenic granuloma

- Localised proliferation of inflammatory granulation tissue/ very vascular fibrous tissue
- Most common of all oral tumour like growths- considered neoplastic. Can also occur on skin
- Term is a misnomer- no pus, not true granuloma. Focal fibrous hyperplasia may be more suited term.
- Soft and vascular in nature, can have ulcerated surface - prone to hemorrhage, often painless
- Not associated with infection
- Approximately 1/3 of PGs occur due to trauma and poor oral hygiene may also contribute (1).
- Arises due to local irritants- in this case UE E and poor oral hygiene, Compounded by the bleeding
- Can recur if O/H cause not addressed
- In females during pregnancy- this would be a pregnancy epulis- incidence of PG- higher in females with high steroid hormons.
- No racial predilection

Radiographs

CBCT: Identified radiolucient voids within the bone, with a cortical breach on the alveolar ridge, raising the possibility of a vascular malformation or tumour.

Contrast MRI: Demonstrated a hyperintense mass in the upper left maxillary ridge however there were no signal voids to suggest an arteriovenous malformation. It concluded a highly vascular, inflammatory lesion likely relating to the submerging ULE

MRI results: Hyperintense mass in relation to left maxillary alveolus, no signal voids would suggest AVM. Hypervascular inflammatory lesion. Possibly related to the unerupted teeth. No bone destruction- not suggestive of aggressive malignant process. No lymphadenopathy.