Pyogenic Granuloma

Synonyms: lobular capillary haemangioma

Pyogenic granulomata are common benign vascular lesions of the skin and mucosa. They are not infective, purulent or granulomatous (as the name might suggest) - rather, a reactive inflammatory mass of blood vessels and a few fibroblasts within the dermis of the skin.

Aetiology[1]

- Not fully understood: rapid growth occurs in response to an unknown stimulus that triggers endothelial proliferation and angiogenesis.
- Trauma and burns can provoke the sequence but frequently there is no identifiable cause.
- Other suggested causes include viral oncogenes, hormonal influences (pregnancy, oral contraceptive pill) and cytogenetic abnormalities.
- They have also been associated with certain medications:
    - Systemic and topical retinoids[2]
    - Indinavir (a protease inhibitor)[4]
    - Chemotherapy agents such as fluorouracil and paclitaxex[5] [6]

Epidemiology

- Mean age for presentation is 6-7 years. Thereafter, there is a decrease in incidence with age.[7] They represent 0.5% of skin nodules in children.[8]
- They are more common in women, due to frequent formation on the gingiva during pregnancy (pregnancy tumour, or epulis gravidarum) - occurring in up to 5% of pregnancies.[9]

Visual appearance

- Solitary, red, purple or yellow papule or nodule arising from normal skin.
- Size varies from a few millimetres in diameter to several centimetres.
- Polypoid appearance - they often develop a stalk or 'collarette' of scale at the base.
- Friable lesion - they are often seen to be bleeding, crusted or ulcerated.

Pyogenic granuloma images

Presentation [1]

- Rapid eruption and growth over a few weeks.
- Most commonly, they occur on the head, neck and extremities (particularly the fingers).
- They occasionally occur on the external genitalia. [10]
- In pregnancy, they are most likely to occur on the maxillary intraoral mucosal surface during the second and third trimesters.
- They have also been reported on the labial mucosa in men. [11]
- Rarely, multiple satellite lesions may develop - especially in adolescents and young adults after prior attempts to remove the original lesion.

Differential diagnosis [12]

Includes:

- Basal cell carcinoma
- Campbell de Morgan spot
- Glomus tumour
- Congenital haemangioma
- Kaposi's sarcoma
- Malignant melanoma
- Metastatic carcinoma of the skin
- Spitz naevus

- Squamous cell carcinoma

Investigation

Some advocate sending all lesions for histological confirmation, because the vascular nature of the lesion makes dermoscopy unreliable.[13] However, there may be occasions on which dermoscopy may be considered sufficient (eg, typical appearance in a very young child).[14]

Primary Care management[15]

- Most patients seek help because of the bleeding associated with the lesion.
- Treatment options include curettage and cautery, shave excision, excision with primary closure and laser therapy.
- Cryotherapy may work but does not provide a histological specimen for diagnosis.
- One study reported the use of sclerotherapy employing sodium tetradecyl sulfate as the sclerosant. As with cryotherapy, this technique does not provide a histological specimen.[16] Moreover, sodium tetradecyl sulfate is only licensed for the treatment of varicose veins in the UK, so the usual considerations concerning the use of unlicensed medicines apply.

When to refer

- For assistance with diagnosis and removal
- Following a recurrence
- Where a nodular melanoma is suspected

Complications

Pain and bleeding are the most usual problems associated with this lesion.

Prognosis[1]

- Pyogenic granulomata are benign lesions.
- Untreated lesions will atrophy eventually but only a minority will spontaneously involute within six months.
- Recurrence rates following treatment can be common regardless of treatment modality.
- Pregnancy tumours tend to regress spontaneously following childbirth so treatment should be postponed accordingly.

Further reading & references

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Original Author:	Current Version:	Peer Reviewer:
Dr Chloe Borton	Dr Laurence Knott	Prof Cathy Jackson
Document ID:	**Last Checked:**	**Next Review:**
4086 (v22)	02/08/2013	01/08/2018