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INTERESTING MEDICAL IMAGE

# Pyogenic Granuloma and Arteriovenous Malformation

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# الورم الحبيبي القيحي والتشوه الشرياني

غابرييل رودريغز، بالاجي جاياسانكار، كريشنا جانومبالي

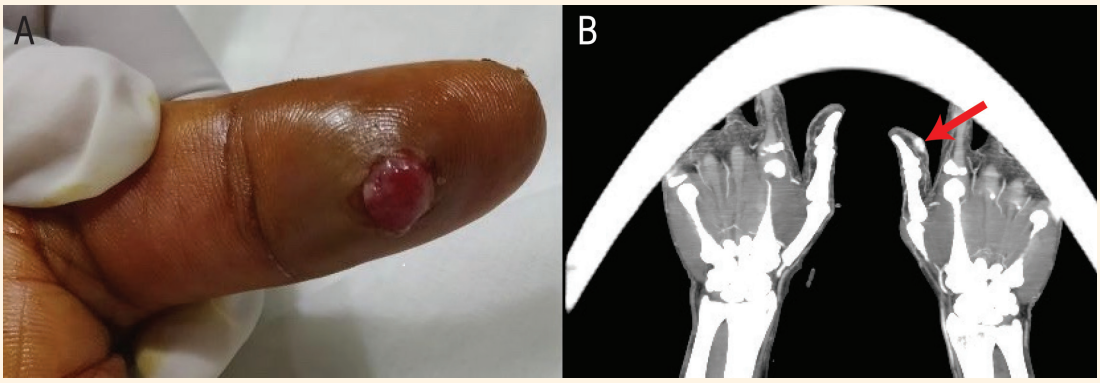


**Figure 1: A:** Photograph of the distal *phalanx* of the left thumb of a 44-year-old male patient showing a noduloulcerative lesion. **B:** Computed tomography angiogram showing a tumour blush (arrow).

A 44-year-old male patient presented to the Kasturba Medical College Hospital, Manipal, India, in 2018 with a two-month history of a repeatedly bleeding, non-healing nodule over the tip of his left thumb following minor trauma with a sharp object during his work as a barber. He had been treated on an outpatient basis at various clinics without success. Evaluation revealed a nodular growth of 0.5 × 0.5 cm over the distal *phalanx* of his left thumb [Figure 1A]. The nodule continued to bleed and required a continuous pressure dressing to control the flow. On occlusion of the left radial artery, the bleeding temporarily receded. With a clinical diagnosis of a post-traumatic arteriovenous (AV) malformation, a computed tomography angiogram of the left upper limb revealed an AV *fistula* at the site of the distal *phalanx* of the left thumb with feeding vessels from the left radial artery [Figure 1B]. The lesion was excised and haemostasis was achieved [Figure 2A]. Histopathology revealed lobulated proliferation of capillary sized vessels, inflammatory cells in a loose and oedematous stroma with findings indicative of a pyogenic granuloma (PG) [Figure 2B].

## Comment

PG is often regarded as a hyperplastic process and is known to grow in response to trauma, hormonal factors and usually presents with pouting granulation tissue. However, histologically they are lobular capillary haemangiomas.[1] Clinically, they mimic lesions such as vascular malformations, haemangiomas, amelanotic melanomas (AMM), dermal *nevi* and basal cell carcinomas.[2,3] These lesions should be histopathologically distinguished from each other, especially as AMM accounts for a small proportion of all melanomas and poses a risk of delayed diagnosis and poor prognosis. An interesting variant of PG or lobular capillary haemangioma involving the hand is the intravenous PG which develops within the *lumen* of the vein. However, in this variant the classical lobular pattern may not be as pronounced as in their extravascular counterparts.[1] Treatment modalities vary and range from topical application of 1% propranolol to laser coagulation and surgical excision depending on the site and location.[4]

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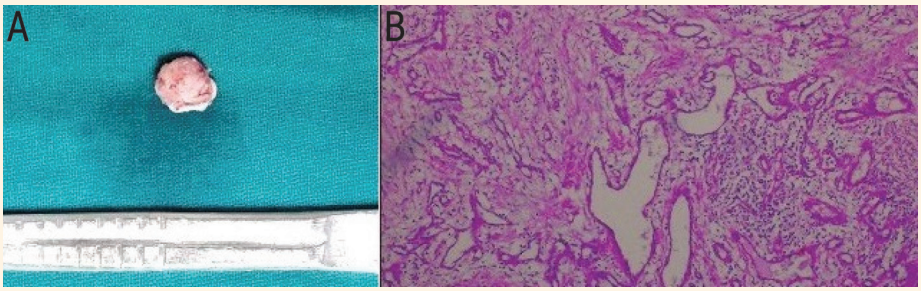


**Figure 2: A:** Photograph of the excised specimen from the left thumb of a 44-year-old male patient. **B:** Haematoxylin and eosin stain at x40 magnification showing lobulated proliferation of capillary sized vessels and inflammatory cells in a loose and oedematous stroma.

AV *fistulas* following a low velocity penetrating injury is well known and the associated clinical signs could be misleading, which might not indicate a clear diagnosis.[4] Despite the various treatment modalities described for AV *fistula* (e.g. ligation of feeders, embolisation and injection of sclerosing agents), an early surgical excision is recommended to alleviate local and systemic complications.[3,5]

This case highlights that both these conditions may mimic each other especially in small wounds following a trauma. It is prudent to differentiate between a relatively benign PG versus its sinistral counterpart, an AV *fistula*.

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