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Case Report

A case of painful subungual glomus tumour
甲下痛症血管球瘤病例

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A 35-year-old Chinese lady presented with left second toe nail splitting and longitudinal depression plus a tender red subungual lesion proximal to this splitting for 10 years. The diagnosis of glomus tumour was made based on clinical histological findings. Complete surgical excision results in cure.

35歲華人女患者，10年來於左側第二趾甲出現趾甲分離及縱向凹陷，其近側趾甲下有一紅色痛性病損。經臨床及活組織學診斷為血管球瘤。經手術切除後痊癒。

Keywords: Chinese, glomus tumour, subungual

關鍵詞：華人，血管球瘤，甲下

Introduction

Glomus tumour (GT) is an uncommon tumour of the arterial portion of the glomus or Sucquet-Hoyer canal. The characteristic physical finding of GT is pain on pressure and cold exposure. Histologically, GT appears as numerous vascular lumina lined by a single layer of flattened endothelial cells which is in turn surrounded by layers of glomus cells with large round or plump nuclei and scant eosinophilic cytoplasm. We report a 35-year-old Chinese lady with a subungual GT.

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Case report

A 35-year-old Chinese lady presented with left second toe nail splitting and longitudinal depression plus a tender red subungual lesion proximal to this splitting for 10 years. The pain could be spontaneous and sometimes woke her up while she was asleep. Her past health was unremarkable. On examination, there were left second toe nail splitting and notching at free distal

edge and a 3 mm red lesion proximal to the splitting. The lesion exhibited exquisite tenderness on light pressure (Figure 1). No other cutaneous or mucosal lesions were found. The differential diagnoses are that of a subungual located lesion and include glomus tumour, fibroma, fibrokeratoma, myxoid cyst and melanocytic proliferation. Ultrasound of left second toe showed there was a hypoechoic lesion situated at nail matrix. Within this lesion, focal increase in vascularity with arterial flow pattern was observed. Pressure erosion was noted at adjacent distal phalanx. Nail exploration with excision of the lesion was performed. Histopathology of the lesion showed uniform cuboidal pink glomus cells in nodular sheets, nests and cords. There were interrupting small blood vessels which were surrounded by the glomus cells in a myxoid stroma (Figures 2-4). The clinical and histological findings confirmed the diagnosis of a GT.

Discussion

GT was first described by Wood in 1812 as a painful subcutaneous nodule made worse by changes in temperature.[1] GT may be solitary or

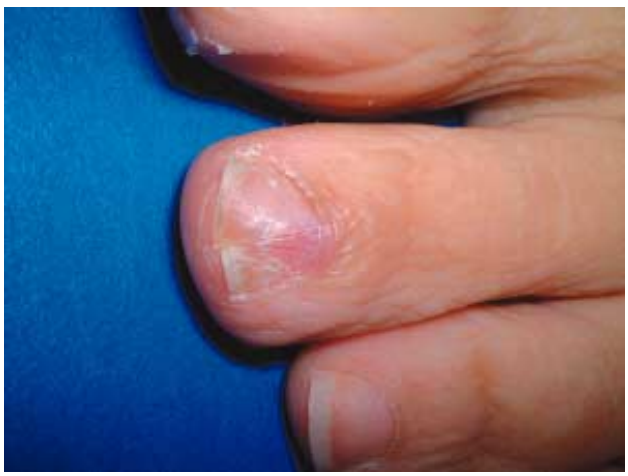

Figure 1. Nail splitting with a proximal 3 mm red lesion over left second toe.

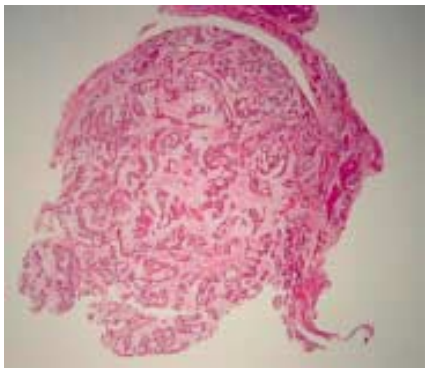

Figure 2. An encapsulated tumour growth in the dermis. (H&E, Original magnification x 4)

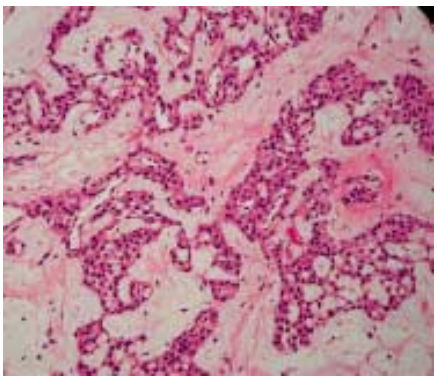

Figure 3. Nests and sheets of glomus cells interrupted by abundant blood vessels. (H&E, Original magnification x 10)

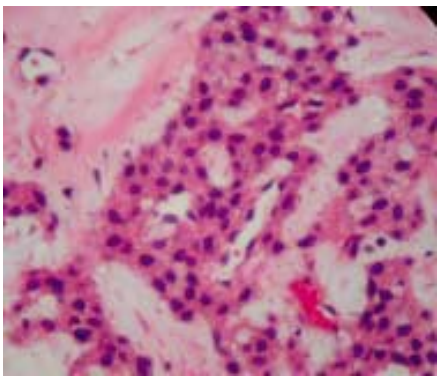

Figure 4. Uniform cuboidal glomus cells form collars around blood vessels. (H&E, Original magnification x 40)

multiple. Solitary GT has equal sex distribution. It usually presents as skin-coloured or dusky blue firm nodule. Paroxysmal pain on cold exposure or pressure is characteristic. Subungual area is the most commonly affected site but lesion over fingers, arms, head, neck, penis, viscera such as stomach, colon, trachea and mediastinum had been reported.[2] Multiple GT or glomangioma is more common in children with a male predominance. Glomangioma can be localised or generalised. Familial cases of glomangioma with autosomal dominant inheritance had been reported.[3,4] Compared with solitary GT, multiple glomangiomata are larger, more deeply situated and less circumscribed. The widely distributed nontender bluish nodules over the body can mimic blue rubber bleb naevus.

Histologically, GT appears as numerous vascular lumina lined by a single layer of flattened endothelial cells which is in turn surrounded by layers of glomus cells with large round or plump nuclei and scant eosinophilic cytoplasm. Solitary GT tend to have small endothelium-lined blood vessels lined by multiple layers of glomus cells whilst glomangioma have irregular larger ectatic vessels surrounded by fewer number of glomus cells. Glomus tumour cells stain positively with vimentin and actin but not desmin.[5] Ultrasound is a non-invasive procedure which can help localising the lesion of GT but it has variable sensitivity depending on the instrument and operator. Plain X-ray examination is not sensitive but may show bony erosion. High resolution magnetic resonance imaging has been reported as an accurate and reliable method for the discrimination of GT from other lesions such as mucoid cyst or fibrokeratoma.[6,7] GT presents as well-contoured isointense signal in T1 weighed image and homogenous enhancement occurs after injection of gadolinium. T2 weighed image yields hyperintense signal. Arteriography may demonstrate entangled arteriovenous anastomosis but routine use is not recommended because of its invasiveness.

The definite treatment for GT is surgical but it may be difficult in cases of multiple GT. Surgical excision is therefore recommended for painful lesions. Electron beam therapy and ruby laser are alternative options that had been claimed to be useful in the treating multiple GT in isolated reports.[8-10] The prognosis of GT is excellent in cases of complete surgical excision. Glomangiosarcoma is extremely rare but case with widespread metastasis has been reported.[11]

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