



Subungual glomus tumours A technical tip towards diagnosis on plain radiographs

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Plain radiography can help in confirming the clinical diagnosis of a subungual glomus tumour, as erosive changes in the distal phalanx are present in 22% of cases. Such changes will be more easily identified on a lateral radiograph with the painful finger and its contralateral counterpart pointing toward each other : discrete scalloping of the distal phalanx will thus be made more evident.

Keywords : glomus tumour ; subungual ; diagnosis ; plain radiography.

INTRODUCTION

Glomus tumours are rare tumours of vascular origin ; in the hand, they account for 1-5% of all soft tissue tumours. They present clinically as a focal, intense pain in a fingertip. Diagnosis is based on clinical examination and technical examinations can support this clinical diagnosis.

We present here a technical tip to help in confirming the clinical diagnosis with plain radiographs.

DIAGNOSTIC TOOLS

Subungual glomus tumours present with a typical triad of hypersensitivity to cold, pin-point tenderness and intense pain in the fingertip.

Clinical tests include the Love test, in which a pin-point object is gently pressed against the area of maximal pain, causing intense pain. This test is

100% sensitive and 78% accurate. Hildreth's test is performed by applying and inflating a tourniquet around the base of the finger, causing withdrawal of the pain. This test is 71% sensitive and 100% specific. The most accurate test is the cold sensitivity test in which the finger is placed in cold water, causing intense pain. This test is said to be 100% sensitive and 100% specific (1). However, this is not very convenient and not practical at all in a normal out-patient clinic.

Technical diagnostic workup consists of MRI and radiography. Glomus tumours show an increased signal intensity on T2 weighed images, especially after gadolinium injection. However, MRI is an expensive examination, which is not readily available. It is also reported to have false negative results (2).

Radiographs may show erosive changes of the distal phalanx in the case of subungual tumours.

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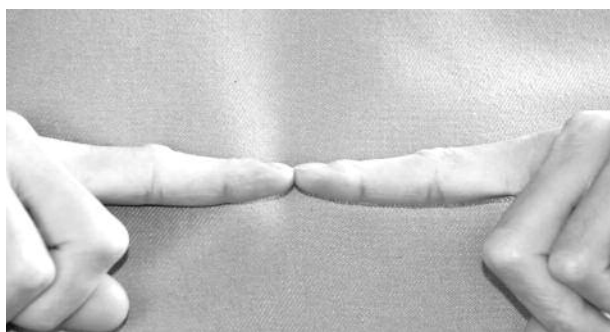


Fig. 1. — Lateral radiographs of both fingertips are taken in this position.

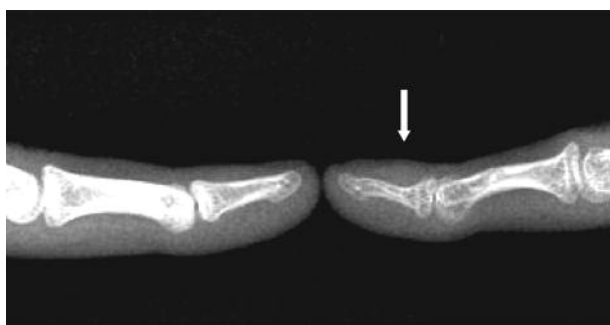


Fig. 2. — This patient had a vascular anomaly of the right hand and showed typical clinical symptoms of a glomus tumour. Radiographs show a small distal phalanx on the right side and a soft tissue enlargement (see arrow).

This sign is reported only in 22% of cases. Plain radiograph is infrequently performed because discrete erosion is difficult to disclose on conventional plain radiographic films (3).



Fig. 3. — This radiograph shows a discrete cortical thinning and an impression on the distal phalanx on the left side compared to the right side (see arrow). This patient had a histologically confirmed subungual glomus tumour.

Technique

Lateral radiographs are taken of the two opposite fingertips pointing toward each other (fig 1). This gives a perfect comparative view of both fingertips. It easily shows even discrete cortical scalloping on the affected side.

This is illustrated in two patients in whom we used this technique, showing a clear difference between the two opposite sides (fig 2 & 3).

We present this as an easy trick to confirm, to detect, or suspect the clinical diagnosis of subungual glomus tumours.

REFERENCES

1. **Bhaskaranand K, Nvadgi BD.** Glomus tumors of the hand. *J Hand Surg* 2002 ; 27-B : 229-231.
2. **Caroll RE, Berman AT.** Glomus tumors of the hand. *J Bone Joint Surg* 1972 ; 54-A : 691-703.
3. **McDermott EM, Weiss APC.** Glomus tumors. *J Hand Surg* 2006 ; 31-A : 1397-1400.