Onychoscopy, an Indispensable Tool in the Management of Glomus Tumor: A Case Report

Nkechi A ENECHUKWU MBBS, FMCP,[1] **Chinedu N ILOKANUNO** MBBS, FWACS,[2]
Ogochukwu I EZEJIOFOR MBBS, FMCP,[1] **Gabriel O OGUN** MBBS, FMCPath,[3]
[1]Dermatology Unit, Dept. of Internal Medicine, Nnamdi Azikiwe University Teaching Hospital, Nnewi, Anambra State.
[2]Plastic and Reconstructive Surgery Unit, Department of Surgery, Nnamdi Azikiwe University, Nnewi Campus.
[3]Department of Pathology, College of Medicine, University of Ibadan, Oyo State, Nigeria.
Corresponding author: Nkechi A ENECHUKWU *MBBS, FMCP*
Email: na.enechukwu@unizik.edu.ng; **Phone number**: +234 8061315182

ABSTRACT

Glomus tumours are rare benign hamartomas commonly affecting the myoarterial apparatus (glomus body) of the nail unit. Typical presenting symptoms include pain worsened by cold and pressure. The obscurity of the lesion when examined with the unaided eye often leads to diagnostic delays and frustration to the patient. However, evaluation of the nail with onychoscopy enhances visualization of characteristic features and facilitates early diagnosis and delineation of the lesion for excisional surgery.

Keywords: Glomus tumor, Glomus body, Onychoscopy, Nail unit, benign harmatoma

L'onychoscopie, un outil indispensable dans la prise en charge de la tumeur de Glomus: un rapport de cas

Abstrait

Les tumeurs du glomus sont de rares hamartomes bénins qui affectent couramment l'appareil myoartériel (corps du glomus) de l'unité de l'ongle. Les symptômes typiques comprennent la douleur aggravée par le rhume et la pression. L'obscurité de la lésion lorsqu'elle est examinée à l'œil nu entraîne souvent des retards de diagnostic et de la frustration pour le patient. Cependant, l'évaluation de l'ongle avec onychoscopie améliore la visualisation des caractéristiques et facilite le diagnostic précoce et la délimitation de la lésion pour la chirurgie excisionnelle.

Mots-clés: Tumeur de Glomus, Corps de Glomus, Onychoscopie, Unité des ongles, Harmatome bénin

Introduction

A glomus tumour is a rare benign vascular tumour with a predilection for the nail apparatus. Diagnosis is often delayed due to difficulties in visualizing lesions with the unaided eye. Dermoscopy is a non-invasive procedure that allows the in vivo evaluation of colours and microstructures of the epidermis, the dermo-epidermal junction, and the papillary dermis not visible to the naked eyes. Dermoscopic examination of the nail apparatus allows visualization of microstructures and distinction between nail disorders showing similar physical appearance. A high index of suspicion, as well as visualization of characteristic features of glomus tumour using dermoscopy of the nail, facilitates early diagnosis, exclusion of other causes of erythronychia (red discoloration of the nails), and proper delineation of the tumour for precision during surgical excision.

Case Report

A 36-year-old woman presented with nail pain of insidious onset on her left ring finger of 4 years duration. The pain was aggravated by cold, minimal trauma, and weight-bearing. There were no obvious lesions on the affected nail resulting in her symptoms being dismissed as repeated traumatic nail injury during her visits to hospitals to seek relief.

Physical examination revealed a barely perceptible pink area 1.5mm in diameter on the affected nail (Fig. 1 blue circle). Love's pin test (extreme or severe tenderness when the lesion is palpated and with

pressure from the dermatoscope) was positive. Onychoscopy was done at 10 fold magnification using Dermlite DL4 (3Gen San Juan Capistrano CA, USA) and showed a pink area with purplish blurred margins and a central linear vessel (Fig. 2A, B). There were no globules, streaks, lacunae, or proximal fading of the erythronychia. The proximal and lateral nail folds, nail plate, and the free margin of the nail were normal (Fig. 2B).

Based on the clinical and dermoscopic findings, a diagnosis of a glomus tumor was made.

Histopathology of onychoscopy guided surgical excision showed multiple vascular channels surrounded by a nest of uniform round cells with oval nuclei and eosinophilic cytoplasm (Figs. 3, 4) confirming the diagnosis of a glomus tumour.

Excision was followed by a complete resolution of symptoms.

Discussion

The diagnosis of glomus tumor is often delayed as in the index patient due to diagnostic difficulties attributable to the obscurity of the lesions.[1] The commonest presenting symptom is nail pain worsened by exposure to cold or pressure with or without obvious erythronychia. Consequently, exclusion of common causes of erythronychia like hemangioma, subungual haemorrhage from conditions like psoriasis and angiokeratoma is imperative.[2] Onychoscopic features like streaks comprising red-brown to dark brown globules and lacunae suggest vascular lakes are seen in angiokeratoma; longitudinal thin erythronychia with a clubbed proximal edge in cherry hemangioma while subungual hematoma commonly shows homogenous purplish-black, red to reddish black pigmentation and peripheral globules at the proximal and lateral edges and streaks at the distal edge, with proximal fading of the erythronychia.[3-5] Rarely, a blue nevus would give a similar dermoscopic picture as seen in a glomus tumor but the presence of electric pain from the pressure of the dermatoscope on the nail plate excludes this diagnosis. The absence of these features in the index patient ruled out these conditions.

Following the diagnosis of glomus tumor, delineating the margins of the lesions poses another challenge making surgical excision complicated.

Dermoscopy is a non-invasive tool that allows visualization of microstructures of the skin and its appendages not apparent with the naked eyes. Nail plate dermoscopy (Onychoscopy) in glomus tumors typically demonstrates structureless purple or blue spot, erythema interspersed with bluish and patchy whitish areas on the nail plate, or numerous branching vessels within a homogenous blue tumor.[6-8] Other reported dermoscopic features include linear vascular structures, onychorrhexis, and a candy cane appearance.[7,8]

The history and the presence of a pinkish structureless area with a linear vessel on onychoscopy of the index patient's nail led to a suspicion of glomus tumor which was confirmed on histology. Onychoscopy was used to delineate the lesion for surgical excision as it was difficult to visualize the margin of the lesions with the unaided eye.

Conclusion

Difficulties in visualizing glomus tumours with the unaided eye may hamper early diagnosis and proper delineation of lesions for tumoral excision. Onychoscopy allows visualization of the characteristic lesion and is therefore invaluable in the management of glomus tumors.

Conflict of Interest: None

Funding Support: None

References

1. Uwe Wollina, Jacqueline Schönlebe. Glomus tumor – dermoscopy and surgery. RoJCED 2018; 5(2):64-xx.
2. Kumar P, Das A. Dermoscopy of Glomus Tumor. Indian Dermatol online J. 2019; 10(2): 206-207.
3. Sohn KM, Woo YJ, Kim JE, Kang H. A subungual angiokeratoma with characteristic clinical and dermoscopic features. Indian J Dermatol Venereol Leprol 2018;84:230-231.
4. Mun JH, Kim GW, Jwa SW, et al. Dermoscopy of subungual haemorrhage: its usefulness in differential diagnosis from nail-unit melanoma. Br J Dermatol. 2013;68:1224–9.

5. Luc Thomas, Amelie Boespflug. Nail matrix dermoscopy. dermoscopedia. September 5, 2018, 10:50 UTC. Available at: https://dermoscopedia.org/w/index.php?title=Nail_matrix_dermoscopy&oldid=13385.
6. Maehara LS, Ohe EM, Enokihara MY et al. Diagnosis of glomus tumor by nail bed and matrix dermoscopy. An Bras Dermatol. 2010; 85:236-238.
7. Mutsaers ER, Gender R, van Es N, et al.Dermoscopyofglomus tumor:more white than pink. J Am Acad Dermatol 2016; 75: e17-e18.
8. Grover C, Jayasree P, Laliyadan F. Clinical and onychoscopic characteristics of subungual glomus tumor: a cross-sectional study. Int J Dermatol. 2021.60: 693-702.

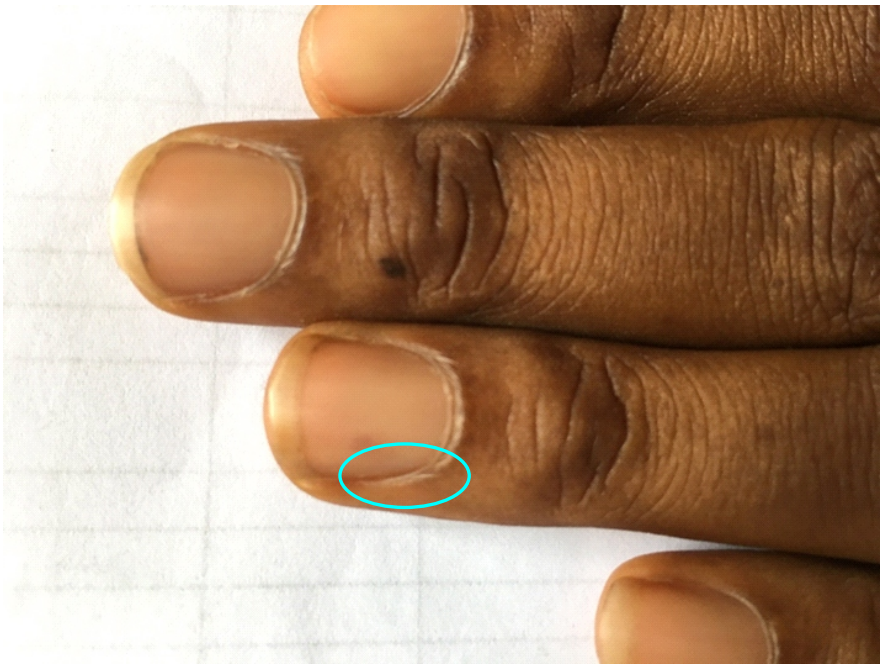

Fig. 1 showing pinkish structureless area on the ring finger.

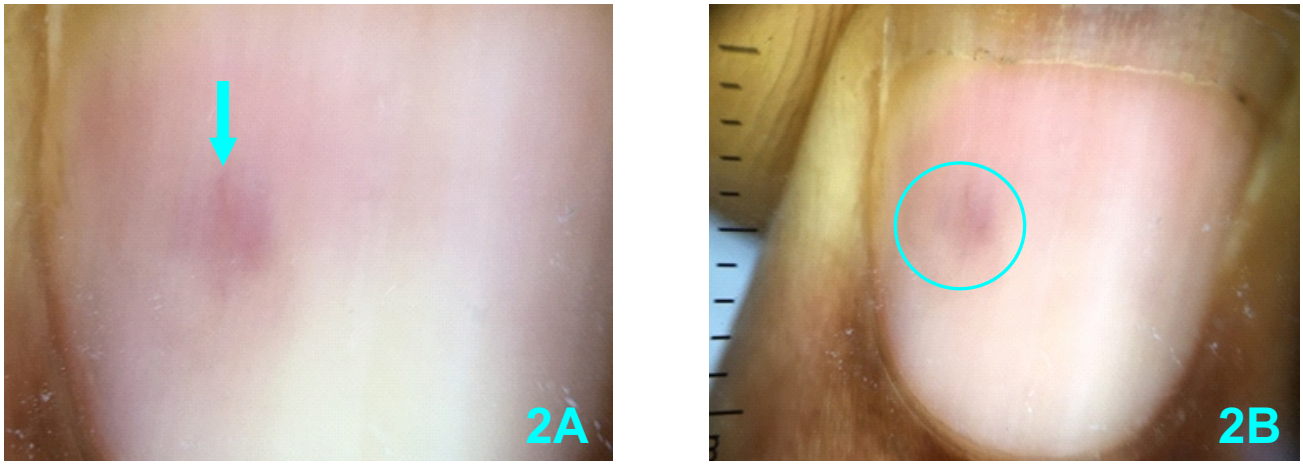

Fig. 2a,b Onychoscopy of nail showing linear vessel (Blue arrow) and structureless pink area with purplish margin(Yellow circle).

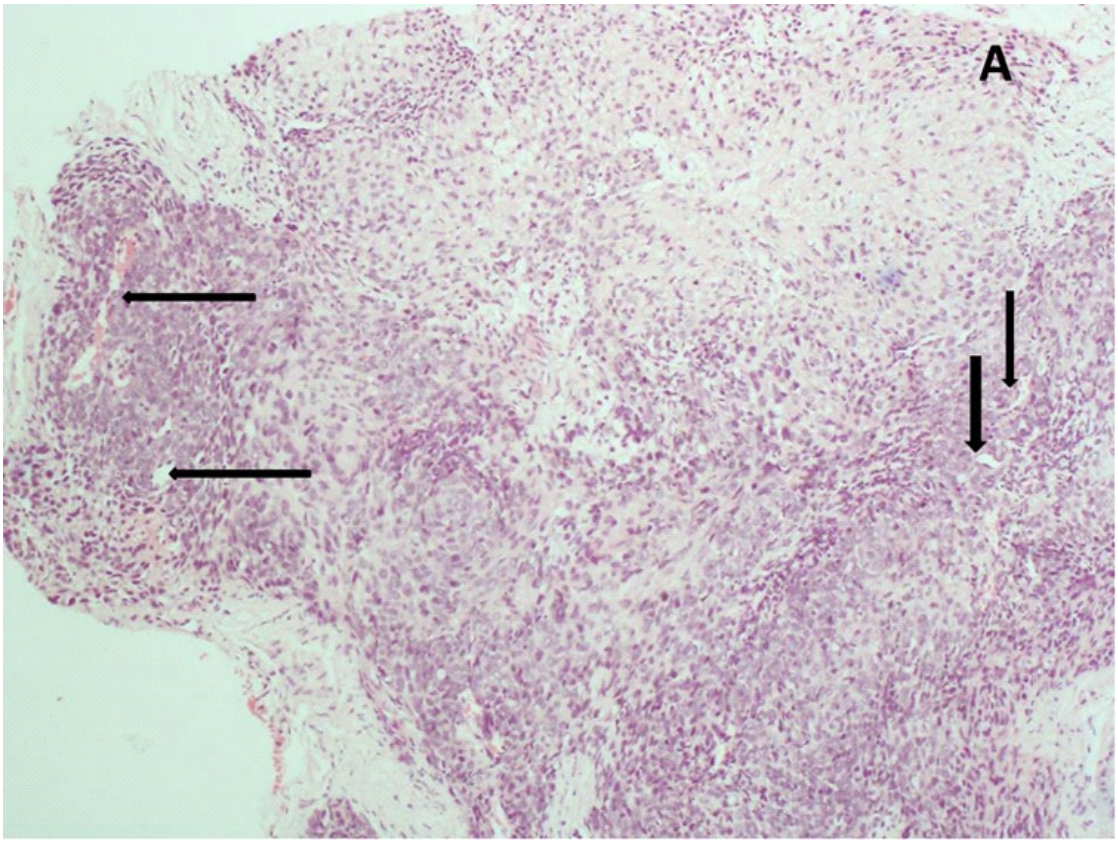

Fig. 3 Lesion (H& E x100) shows Glomus tumor with typical multiple vascular channels (Black solid arrows) surrounded by a nest of uniform round cells with oval nuclei and eosinophilic cytoplasm. The upper left arrow shows the tumor cells, while the lower arrow shows one of the vascular channels.

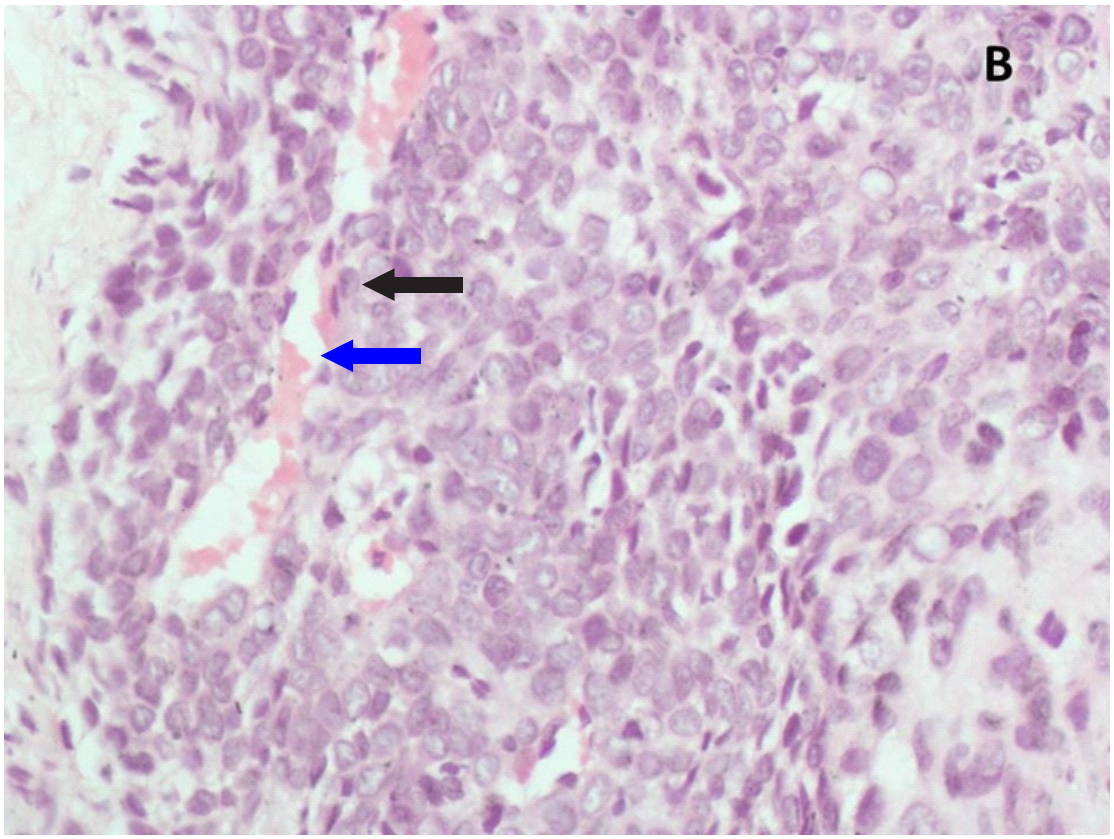

Fig. 4 (H&E X400) shows the tumor cells typically around a blood vessel. The blue arrow shows the vascular channel while the black arrow shows the tumor cells.