CASE REPORT

Multiple glomangiomas: A case report

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ABSTRACT

Glomus tumors are rare benign neoplasms characterized by the proliferation of vascular and smooth muscle cells in the subdermal regions. They usually present as painful, mobile, well-circumscribed nodules and are frequently highly tender; approximately 80% of lesions occur on the upper extremities, most commonly in the subungual region.

The clinical presentation classically includes a triad consisting of cold sensitivity, intense paroxysmal pain, and exquisite point tenderness, although this triad is not always present. Two clinical forms have been described: the solitary variant, which accounts for approximately 90% of cases, and the multiple variant known as glomangioma, representing the remaining 10%.

The aim of this report is to increase awareness of this uncommon entity and emphasize its importance in the differential diagnosis of painful cutaneous tumors.

INTRODUCTION

Multiple glomangioma is an uncommon benign cutaneous vascular neoplasm originating from the glomus body, a structure responsible for thermoregulation and vascular flow regulation.[1] It is composed of an afferent arteriole, several anastomotic vessels (Suquet-Hoyer canals), a collecting vein, an intraglomerular reticulum (containing glomus cells, nerve fibers, and interstitial cells), and a capsule.[2]

Although its etiology remains incompletely understood, a possible association with prior trauma at the tumor site has been observed.[3] These tumors most commonly affect young adults during the third and fourth decades of life and show a slight female predominance when located in acral regions.[4]

The pathophysiological mechanism underlying the characteristic pain associated with these tumors is related to contraction of the myofilaments within glomus cells in response to temperature changes. This contraction increases intracapsular pressure, which is transmitted through unmyelinated nerve fibers, thereby producing intense localized pain.[5]

Clinically, patients commonly report paroxysmal pain, hypersensitivity to cold, and well-localized tenderness.[6] Diagnosis is based on the correlation of clinical findings, imaging studies, and, ultimately, histopathological examination.[7]

Delayed diagnosis of glomus tumors may significantly affect patients' quality of life and mental health, as many individuals endure prolonged periods of chronic and intense pain. Cohen reported that several patients consulted multiple healthcare professionals before the etiology of their painful lesion was correctly identified.[8]

The treatment of choice is complete surgical excision. Recurrence has been reported in 2–13% of cases, and pain may recur weeks or even years after treatment. Early recurrence is generally associated with incomplete tumor excision, whereas late recurrence may result from the development of a new glomus tumor in the same region, often related to incomplete resection of the tumor capsule.[9]

CASE PRESENTATION

A 39-year-old female patient with a medical history of hypothyroidism presented with a two-year history of multiple painful nodules, with pain intensity rated 10/10 on the Visual Analog Scale (VAS). The lesions were violaceous and located on the arm, elbow, left forearm, right elbow, and posterior thorax. Their sizes ranged from 0.4 cm to 1 cm in diameter and they exhibited a firm consistency (Figures 1–2).

Medical history and physical examination were fundamental for the initial diagnostic approach. Histopathological confirmation was achieved through biopsy, which demonstrated nests of eosinophilic cuboidal cells with monomorphic basophilic nuclei, Suquet-Hoyer spaces, and peripheral vascular structures (Figures 3–4). Surgical excision was performed, followed by close clinical follow-up due to the possibility of recurrence.

DISCUSSION

The clinical presentation, together with the morphological characteristics of the lesion and the low frequency of this entity, led us to consider several causes of painful cutaneous tumors in the differential diagnosis. These included neuroma, leiomyoma, dermatofibroma, angiolipoma, eccrine



Figure 1. Four painful violaceous nodules located on the posterior thorax.



Figure 2. Painful violaceous nodule located on the left arm.

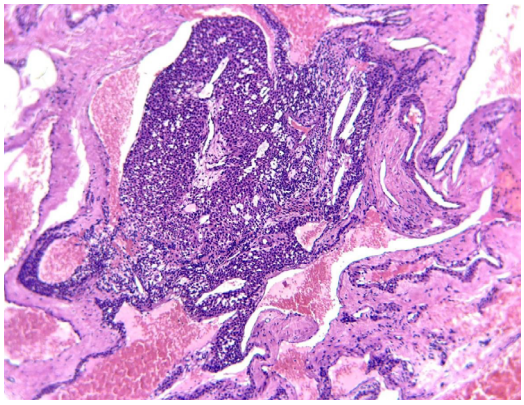


Figure 3. Benign mesenchymal vascular neoplasm with several dilated and thrombosed vascular channels containing erythrocytes (10×).

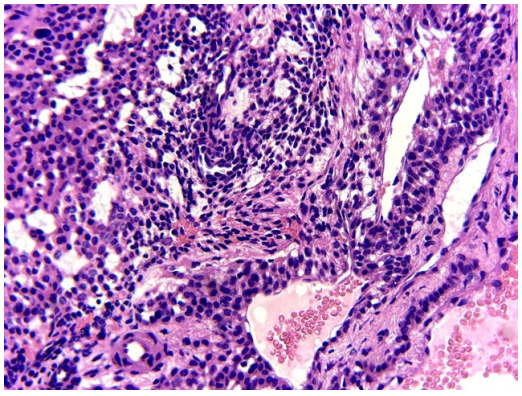


Figure 4. Compact proliferation of glomus cells surrounding vascular channels, consistent with the glomus apparatus (20×).

spiradenoma, neurilemmoma, and glomus tumor.[10] Since the symptomatology is not always accompanied by the classic triad (paroxysmal pain, hypersensitivity to cold, and precise localization of pain),[11] clinical diagnosis may be challenging, particularly in the absence of characteristic findings.

In this context, clinical evaluation should be complemented by imaging studies such as magnetic resonance imaging (MRI) or high-resolution ultrasonography.[12] Ultrasonography represents a first-line diagnostic tool because of its availability, low cost, speed, and non-invasive nature. In glomus tumors, ultrasound typically reveals rounded or ovoid hypoechoic lesions with increased vascularity on Doppler examination. However, MRI is considered the imaging modality with the highest sensitivity for detection and characterization, especially in small lesions or those located in anatomically complex areas.[13] These complementary studies allow assessment of lesion extent and involvement of surrounding structures, suggesting the diagnosis by demonstrating a well-circumscribed, hypervascular lesion located in the deep dermis or subungual tissue. Nevertheless, definitive confirmation requires histopathological examination.

In our case, an excisional biopsy of the suspected lesion was performed, which conclusively demonstrated the presence of glomus cells arranged in a solid pattern, with eosinophilic cytoplasm and round nuclei, representing the typical histological features of glomus tumors. This finding was decisive in confirming the diagnosis and ruling out other benign painful cutaneous neoplasms.

Histological confirmation not only establishes the diagnosis with certainty but also guides therapeutic management and patient follow-up, given the risk of recurrence associated with incomplete excision.

Complete surgical excision remains the treatment of choice, being considered the only curative option and usually associated with immediate resolution of pain.[14] Recurrence has been reported in approximately 10–20% of cases and may occur through two mechanisms: when it develops in the early postoperative period, it is usually attributed to incomplete resection of the lesion; in contrast, when it appears after a prolonged interval, it generally corresponds to the development of a new glomus tumor.[15]

CONCLUSION

A detailed understanding of the clinical presentation and histological characteristics is essential to promote early identification. The use of imaging and histological studies enables complete surgical management and reduces the risk of recurrence. Therefore, continuous training of healthcare professionals in the recognition of uncommon but potentially disabling entities such as this type of tumor is fundamental to ensure timely diagnosis, optimize therapeutic outcomes, and improve patients' quality of life.

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