Subcutaneous glomus tumor of chest wall

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ABSTRACT

Glomus tumors are known to occur in the subungual region of fingers. Extradigital occurrences have been reported in the past but are rare. Occurrence in the anterior chest wall has not been reported. We report a case of subcutaneous glomus tumor occurring in the anterior chest wall in a 47-year-old gentleman, suffering from pain for 2 years without diagnosis, who was successfully treated by excision biopsy.

Key words: *Chest wall glomus, Glomangioma, Glomus tumor, Subcutaneous glomus*

The glomus body, first described by Hoyer in 1877, is a normal myoarterial A-V anastomosis containing neural input to function as a valve by controlling blood flow from the arterial end into deep collecting veins to modulate temperature [1-3]. A glomus tumor is a benign tumor arising from the glomus body and occurs frequently in the nail bed. It has also been reported in other parts of extremities and in the internal organs in the literature. Its incidence has been reported to be 1–2% of all soft tissue tumors [3] and most of them are less than 1 cm in diameter [2]. Subcutaneous occurrence in the anterolateral chest wall has not been reported. We report one such case.

CASE REPORT

A 47-year-old gentleman presented with chest pain of 2 years duration, who was treated unsuccessfully with multiple prescriptions of analgesics and the cause undetected with extensive consultations and investigations. He was a physically fit person without any comorbidities and there was no history of trauma. Pain was of insidious onset, on and off at rest when not touched, but reports severe, sharp pain when touched on a particular spot.

General physical examination and vital signs were unremarkable. On close inspection of affected area, the skin appeared to have a purple papule (Fig. 1) over the area of pain. On palpation, he was exquisitely tender over the papule on the left side of chest anterior to the anterior axillary line over the 10th rib area. There was no obvious mass palpable and the tenderness appeared to be out of proportion to the findings. There were no other areas of pain or tenderness.

Ultrasound of the area revealed subcutaneous nodular lesion of approximately 0.96 cm × 0.44 cm size corresponding to the point of tenderness (Fig. 2a). Chest X-ray did not show any abnormalities.

Under local anesthetic field block, the lesion was excised through a 2 cm incision and specimen sent for histopathology. The specimen was oval, measuring 9.6 mm × 4.4 mm, purple, nodular lesion with smooth surface (Fig. 2b). Histopathological examination showed cavernous vascular spaces surrounded by layers of glomus cells indicating glomus tumor. Postoperatively, the patient had uneventful recovery and he had dramatic and complete resolution of his symptoms from the 1st post-operative day. There was no recurrence of pain on final follow-up at 6 months.

DISCUSSION

Glomus tumor was first described in 1924 by Barre and Masson [1] and has also been known as Barre-Masson disease. It is bluish/purple in color and it contains glomus cells (granular dark staining cytoplasm with clear centrally located nucleus also called “argentine cells”), which are altered epithelioid cells arising from smooth muscle placed along non-myelinated nerve fibers which have lost their myelin sheaths and are derived from superficial dermal nerves. Glomus cells are located in the Sucquet-Hoyer canal, a specialized A-V anastomosis involved in thermoregulation [2].

Four types of glomus tumors have been described by Barre and Masson [1] depending on the predominance of cells in the tumor: (i) Poorly vascularized epithelioid, (ii) angiomatous, (iii) neuromatous, and (iv) degenerative with predominant cells as modified smooth muscle, vascular tissue, neural tissue, and degenerative tissue, respectively. A more commonly used classification describes the types as (i) angiomatoid (glomangioma) with predominant blood vessels, (ii) solid (predominantly glomus cells), and (iii) glomangiomyoma with predominant smooth muscle cells [2,3].

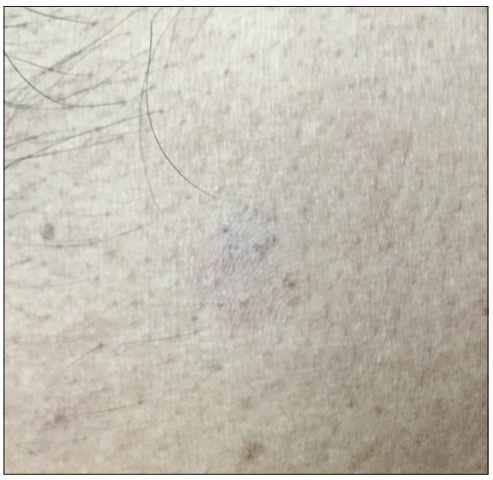

Figure 1: Clinical picture shows light purple coloring of skin overlying the lesion

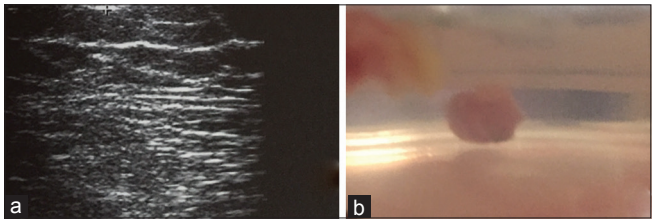

Figure 2: (a) Ultrasound scan image showing size of the lesion (0.96 cm × 0.44 cm). (b) Specimen after excision biopsy

Extradigital glomus tumors have been studied in detail by Lee *et al*. [4]. They note that almost 60% occurred in upper limb, 24% occurred in the trunk, only 20% were diagnosed by the initial physician and majority was glomangiomas. They present as either papules (purplish, erythematous, bluish, or brownish) or nodules [4]. Cure rate after simple excision for solitary lesions was found to be 90%. Temiz *et al*. reported one case of subcutaneous glomus tumor in the sternal area among five extradigital tumors [5].

Yim *et al*. [6] reported recurrence in the chest wall with malignant transformation after excision of a paraspinal glomus tumor. The various documented sites of origin are stomach, liver, trachea, lungs, pleural cavity, posterior mediastinum, intranasal, and bronchi.

Occurrence in multiple locations has also been rarely reported including deep in the chest wall [7]. 90% percent of glomus tumors are solitary and 10% occur as multiple lesions [3]. Majority of multiple lesions occur in children, inherited in autosomal dominant fashion, and subdivided into nodular and plaque-like lesions [3]. Chromosome 1. p. 21-22 is linked to the genetic aberration in these cases and the associated gene is called glomulin [2]. The reason for multiple occurrences in adults was thought to be intravascular spread as happens with intravascular leiomyomatosis since glomus cells share features with smooth muscle cells [8]. Malignant glomus tumor is very rare and documented as isolated case reports [6,9-11].

Differential diagnoses include hemangiomas, neuromas, or their malignant counterparts and if occurring in subungual location, which is the most common site, subungual exostosis, felon, and periostitis may be mistaken.

CONCLUSION

Glomus tumour can occur in varied locations and requires a high index of suspicion for diagnosis. Excision completely relieves the pain with minimal chance of recurrence. Our report was unique because there was no case previously documented in the subcutaneous location of anterolateral chest wall.

REFERENCES

1. Chandler LR. Subcutaneous glomus tumor. Cal West Med 1937;47:156-8.
2. Calonje EJ, Fletcher CD. Tumours of blood vessels. In: Fletcher CD, editor. Diagnostic Histopathology of Tumors. Philadelphia, PA: Saunders/Elsevier; 2013. p. 75-7.
3. Chatterjee JS, Youssef AH, Brown RM, Nishikawa H. Congenital nodular multiple glomangioma: A case report. J Clin Pathol 2005;58:102-3.
4. Lee DW, Yang JH, Chang S, Won CH, Lee MW, Choi JH, *et al*. Clinical and pathological characteristics of extradigital and digital glomus tumours: A retrospective comparative study. J Eur Acad Dermatol Venereol 2011;25:1392-7.
5. Temiz G, Irinolu H, Demirel H, Yeilolu N, Sarc M, Filinte GT. Extradigital glomus tumor revisited: Painful subcutaneous nodules located in various parts of the body. Indian J Dermatol 2016;61:118.
6. Yim IH, Will MB, Carnochan FM, Walker WS. A glomus tumor with recurrence and malignant transformation in the chest wall: A cautionary tale of seeding? Ann Thorac Surg 2016;102:e397-9.
7. Schneller J. Multifocal glomangiomyomas in the chest wall of a young man. Arch Pathol Lab Med 2001;125:1146-7.
8. Haque S, Modlin IM, West AB. Multiple glomus tumors of the stomach with intravascular spread. Am J Surg Pathol 1992;16:291-9.
9. Zhang Y, Li H, Zhang WQ. Malignant glomus tumor of the esophagus with mediastinal lymph node metastases. Ann Thorac Surg 2013;96:1464-6.
10. Lin F, Yang M, Pu Q, Ma L, Liu C, Mei J, *et al*. Malignant glomus tumor in pleural cavity. J Thorac Dis 2015;7:E126-30.
11. Khoury T, Balos L, McGrath B, Wong MK, Cheney RT, Tan D. Malignant glomus tumor: A case report and review of literature, focusing on its clinicopathologic features and immunohistochemical profile. Am J Dermatopathol 2005;27:428-31.

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