Glomus tumour of the elbow: an unusual complication of surgery

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Abstract

Glomus tumours of the elbow remain a challenge to diagnose correctly and efficiently. We present a case of a glomus tumour as a complication of elbow surgery. This has not been described previously. This case highlights the possibility of injury as a causative factor in these tumours and the difficulty in differentiating them from postoperative neuromas by clinical presentation and ultrasound imaging alone.

Keywords

Elbow, glomus tumour, neuroma, surgery, trauma

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Introduction

The glomus tumour is a benign vascular neoplasm derived from the glomus body, a component of the dermis layer of the skin, involved in thermoregulation. Glomus bodies are found in greatest abundance in the extremities, in particular the subungual region of the finger. Therefore, this is the commonest site of occurrence of these tumours. They can also occur in extra-digital areas, including the elbow and shoulder. Glomus tumours make up 1.5% to 4.5% of all the benign soft tissue tumours affecting the upper limb and, because they are reported to occur at the elbow in only 4.4% of these cases, a glomus tumour of the elbow remains a rare entity.^{1,2}

Glomus tumours classically present as extremely painful, solitary purple nodules with cold intolerance and point tenderness. However, in nondigital regions such as the elbow and shoulder, they may vary in presentation, which contributes to delayed diagnosis or misdiagnosis.^{3–5}

The aetiology of these lesions is unknown. We were presented with a case of glomus tumour as a complication of elbow surgery. It has not been described before. We report the case and discuss the possibility of injury as a causative factor in these tumours.

Case Report

A 47-year-old gentleman presented to orthopaedic clinic with a 12-month history of worsening pain and

tenderness over the medial epicondyle of the left elbow with pain on resisted flexion of the wrist. He was diagnosed with medial epicondylitis and treated with local steroid injections, which gave temporary relief of symptoms. The patient had a further injection, which was even less effective. On further recurrence of symptoms, and after confirmation of the diagnosis with an ultrasound scan, the patient underwent release of the common flexor origin at the elbow along with a cubital tunnel release (due to additional ulnar nerve symptoms). Intra-operatively, no other macroscopic abnormality was found. Two months postoperatively, most of his symptoms had resolved, except a mild discomfort around the medial epicondyle.

The patient returned to the clinic 8 months after the surgery complaining of a localized, severely painful area adjacent to the surgical scar. On examination, the medial epicondyle was nontender and resisted flexion did not elicit any pain. He had a nontender hypertrophic scar but an exquisitely tender subcutaneous soft swelling of approximately 1 cm in diameter not

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attached to under or overlying structures, posterior to the superior part of the surgical scar.

This was treated expectantly in the beginning but his pain gradually increased. An ultrasound scan of the lesion showed it to be a well-defined cystic lesion with internal debris measuring $14 \times 6 \times 10$ mm, within the subcutaneous layer. The lesion was avascular, incompressible and appeared to be similar to a neuroma. He underwent surgical resection of this swelling.

Histological analysis of the excised swelling showed that it was a smooth muscle actin positive, well circumscribed tumour with a prominent vascular component consistent with a glomus tumour. The patient's symptoms have fully resolved and there has been no recurrence for 15 months after surgery.

Discussion

Glomus tumours are mysterious entities commonly found on digits as severely painful small localized swellings. Their aetiology is unknown. Although trauma as a causative factor of glomus tumours has not been confirmed, several retrospective studies have mentioned preceding trauma or injury to the area where the tumour developed. Schiefer et al.¹ looked at 56 cases of extra digital glomus tumours over a 20-year period and found 20% of cases to have associated trauma prior to the onset of symptoms. Another study reported that three out of eight patients with glomus tumours of the digits gave a history of preceding trauma.⁶ Individual case reports have given specific examples of trauma, from falls to a prick by a tree branch, with a delay in onset of symptoms of up to 6 months. All of these reports have only speculated that trauma was a possible causative factor of the glomus tumour.⁷⁻⁹

Neuromas are common complications of surgery on limbs. They are considered to occur as a result of damage to cutaneous nerves. In this case, a neuroma was considered as the possible cause of patient's symptoms because the clinical presentation of neuroma and glomus tumour can be very similar and a glomus tumour at this site is quite rare. An ultrasound scan

also indicated that it was a neuroma. It was only after microscopic analysis that the correct diagnosis of a glomus tumour was made.

Misdiagnosis of extra digital glomus tumours is a well-documented issue. They may be confused with neuromas because they present in a similar way and it is difficult to differentiate between them using ultrasound. Glomus tumours should be considered as a possible diagnosis in similar postsurgical situations.

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