

# Post-traumatic lymphangioma of the forearm in a young adult male

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Date accepted for publication 31 July 2006

## Abstract

Lymphangioma resulting from trauma has rarely been described in the upper limb. Following direct blunt trauma it has previously been reported in the head and neck region as well as the abdomen. We report a rare case of post-traumatic soft tissue cystic swelling within the flexor aspect of the forearm, which was shown to be a lymphangioma. We describe the clinical features, MRI findings, and surgical treatment of this lesion.

## Keywords

Lymphangioma; trauma; forearm.

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## Case report

Lymphangioma resulting from trauma has rarely been described in the upper limb<sup>[1,2]</sup>. Following direct blunt trauma it has previously been reported in the head and neck region<sup>[3]</sup> and the abdomen. We report on a 25-year-old right-handed man who presented with a 4-year history of an enlarging swelling in the anterior aspect of the left forearm. The lump appeared soon after he had his arms bound with a belt strap for several hours.

At presentation, the lump was uncomfortable, particularly following strenuous activities. The symptoms had gradually become worse and had started interfering with his occupation. There were no symptoms suggestive of systemic illness.

Examination of the anterior aspect of the left forearm revealed a single diffuse swelling extending distally from the elbow crease. The lump measured 8 × 4 cm and was lobulated. The overlying skin was normal. The mass was soft, cystic, non-tender, non-pulsatile, compressible and brilliantly transilluminant. With resisted flexion of the elbow, the lump became less prominent and was found to be free of the overlying skin and subcutaneous tissue. Elbow and forearm movements were unrestricted. Distal neurovascular status was normal and proximal nodes were not enlarged.

Plain radiographs were normal. Magnetic resonance imaging (MRI) scans showed a cystic mass occupying the interval between the superficial flexor muscles medially and the brachioradialis laterally. Short-inversion-time inversion recovery (STIR) images (Fig. 1) confirmed a high-intensity signal from a lobulated mass.

Surgical exploration using an anterior longitudinal incision over the mass was undertaken. This revealed a well-defined lobulated mass filled with clear watery fluid (Fig. 2). The mass was well encapsulated and removed as a single entity. Histopathological examination showed features consistent with lymphangioma.

The postoperative recovery was uneventful. The patient was asymptomatic and returned to full activities in 8 weeks.

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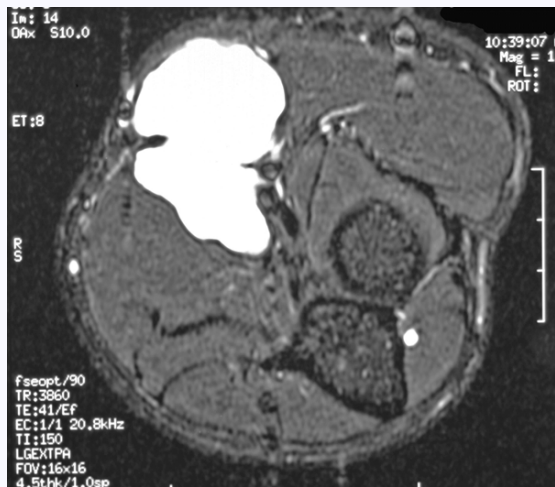
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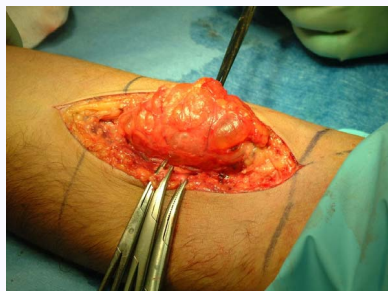
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**Fig. 1.** Axial STIR MRI image shows a high-intensity signal within the well-defined lobulated mass.



**Fig. 2.** Intra-operative photograph of a multiple lobulated structure, consistent with lymphangioma. The mass was free of the neurovascular bundle.

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## Discussion

Lymphangiomas are benign lesions arising from lymphatic tissues. They are categorised as hamartomas. It is generally accepted that lymphangiomas represent congenital malformation resulting from the failure of the lymphatic channel to communicate with the venous system<sup>[4]</sup>.

Lymphangiomas are usually found around the neck, chest and abdomen. The cause is unknown. Experimental blockage of the lymphatic system results in lymphangiomas. It is postulated that traumatic fibrosis causes blockage of lymph drainage and development of lymphangioma possibly from a sequestered portion of the primitive lymphatic tissue<sup>[5]</sup>.

The investigation of choice is MRI scan. Characteristic MRI findings include rim enhancement and a multiloculated appearance. There is also high-intensity signal on T2 weighted images<sup>[6,7]</sup>.

The natural history is variable and can be associated with increase in size and development of features suggestive of pressure on adjacent neurovascular structures<sup>[8]</sup>.

The need for surgical exploration and excision must be considered on the basis of presenting features. However, successful surgical treatment carries the risk of residual symptoms, hypertrophic scarring and recurrence.

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