

GIANT CUBITAL FOSSA LIPOMA MIMICKING HAEMATOMA FOLLOWING VASCULAR ACCESS: A CASE REPORT AND REVIEW OF LITERATURE**Bello US**

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ABSTRACT

Background: Lipomas are the most common type of mesenchymal tumours, but giant lipomas of the upper extremities are rare. This tumour is slow growing and a rapid growth should herald suspicion of malignancy or a slit in the fascia that abruptly protrude a deep seated lipoma following a trigger.

Objectives: To highlight traumatic vascular access precipitating a rapid growing cubital lipoma that mimicked a haematoma and review of existing literature.

Methods: Data on clinical, operative and laboratory findings of a 26 year old female were reviewed and followed, after noticing a progressive swelling subsequent to vascular access.

Results: A lipoma measuring 8cm x 5cm x 4cm was excised from the cubital fossa for a rapid growing swelling after eventful vascular access.

Conclusion: A rare case of venepuncture as a likely trigger of the giant cubital fossa lipoma and this awakes attention to regular refresher training on vascular access as a recommendation.

Keywords: Giant lipoma; Vascular access; Haematoma; Cubital fossa

INTRODUCTION

Lipoma of the extremities are uncommon, however, lipomas are the commonest type of mesenchymal tumour that are more often occurring superficially than deep seated.^{1,2} The deep seated lipoma are enclosed under an enclosing fascia.¹ Lipoma of the upper limb that exceeds 5cm in any of its widest diameter is referred to as giant lipoma,^{2,3,4} but other pundits opined a lipoma to be excessive in size when it measures more than 10cm in its widest diameter or weights greater than 1000g.^{5,6} Lipomas are slow growing but suspicion arises when there is rapid growth, in which case a rent in the fascia protrudes a deep seated lipoma or the lesion is malignant. The chances of failure of vascular access causing more trauma can be from poor experience, hazy familiarity with anatomy and unawareness of various approaches to vascular access.⁷ The chances of trauma from a difficult vascular access, triggering a rapid growth of cubital fossa lipoma has paucity in the literature which this report addresses.

CASE REPORT

A 26 year old chubby lady presented with a 5 weeks history of progressive right cubital fossa swelling noticed following some attempts at venepuncture during a course of routine medical check up. She attested to difficulty in securing venous access and noticed a swelling on the right cubital fossa the same day, with associated pain and difficulty in flexing her right elbow later on. She had no previous history of trauma or prior history of obvious swelling to the right cubital fossa but she believed the venepuncture caused the swelling. Examination revealed a swelling in the right cubital fossa [Fig. 1], about 11cm by 4cm in size, oval in shape, having a smooth shiny tensed skin, and firm in consistency with a fluctuant summit [Fig. 2]. The swelling shows some mobility along the longitudinal axis on flexion, that is not firmly attached to the underlying structures and there is good capillary refill over nail beds. The surrounding skin has some differential warmth but slipping sign, bruise and trill were all negative.

No epitrochlear or axillary lymphadenopathy. Upper limb power grade was five (5) with some paraesthesia over the volar forearm. Packed Cell Volume (PCV) was 38%, urinalysis was normal and plain radiographs showed no bony lesion except for a dense soft tissue shadow over the right cubital fossa. Differential diagnoses included traumatic haematoma, abscess or a soft tissue tumour arising from the dense deep fascia. Needle aspiration revealed no blood or pus. A fine needle aspiration cytology biopsy (FNACB) of the lesion showed no suspicion of malignancy. Informed consent was obtained for excision, consequently a rubber improvised Esmarch tourniquet was applied after padding with cotton wool, having raised the upper limb for about two(2) minutes (no bandage exsanguinations done) and excision of the mass was done through a transverse skin crease incision in the cubital fossa after normal prep and drape [Fig. 3 & 4]. The operative findings revealed a firm, irregular, yellowish fatty mass measuring 8cm × 5cm × 4cm that is blood stained with an adjoining stalk at its posterior surface. Tissue dissection using scissors through the planes separates and mobilized the mass, aided by adequate retraction and exposure using Langenberg retractors and Allis forceps. Haemostats were applied to some bleeders and suture ligation of bleeding vessels that persisted after tourniquet was released. Obliteration of the dead space using vicryl [Fig. 5] and subcuticular wound closure with gapes were done as no drain was placed. Macroscopy of the lesion shows a yellowish fatty mass measuring 8cm × 5cm × 4cm and histology revealed benign lipoma. Post operatively, she was placed on Diclofenac potassium and amoxicillin/clavulenic acid despite being a clean wound. Recovery was uneventful and no recurrence at 1 and 11 months follow up.



Figure 1: Right upper limb showing cubital fossa swelling

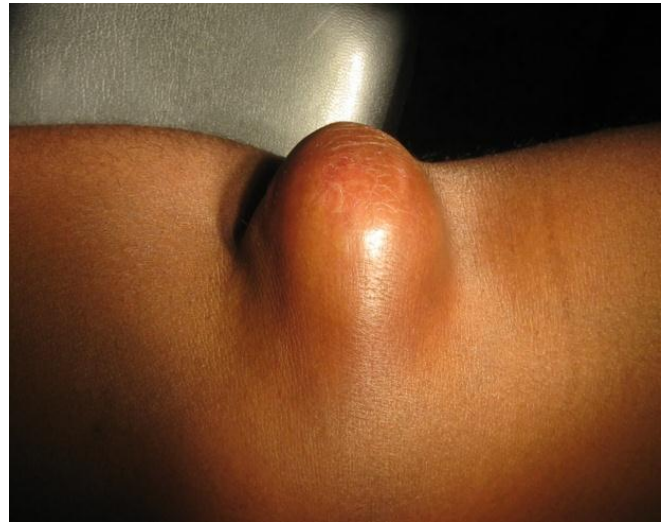


Figure 2: Cubital fossa swelling with shiny fluctuant surface

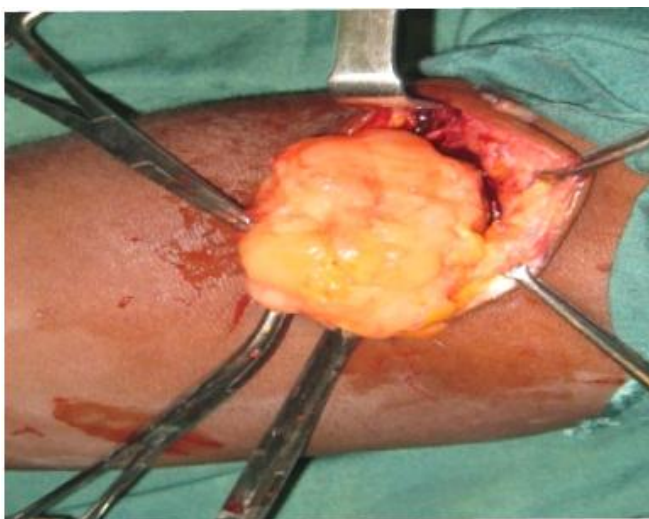


Figure 3: Lipoma dissected through the cubital fossa plane

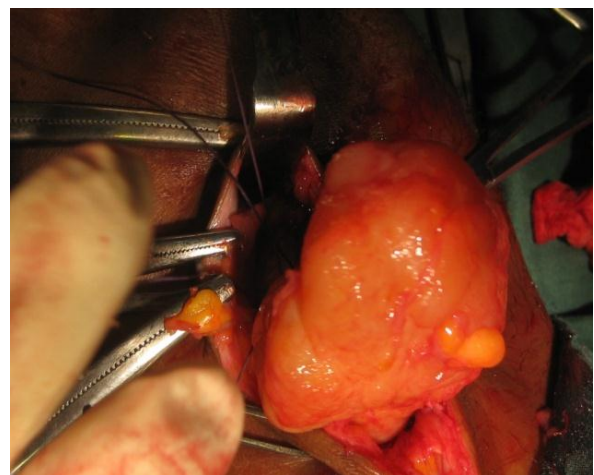


Figure 4: Stalk being mobilized and excised

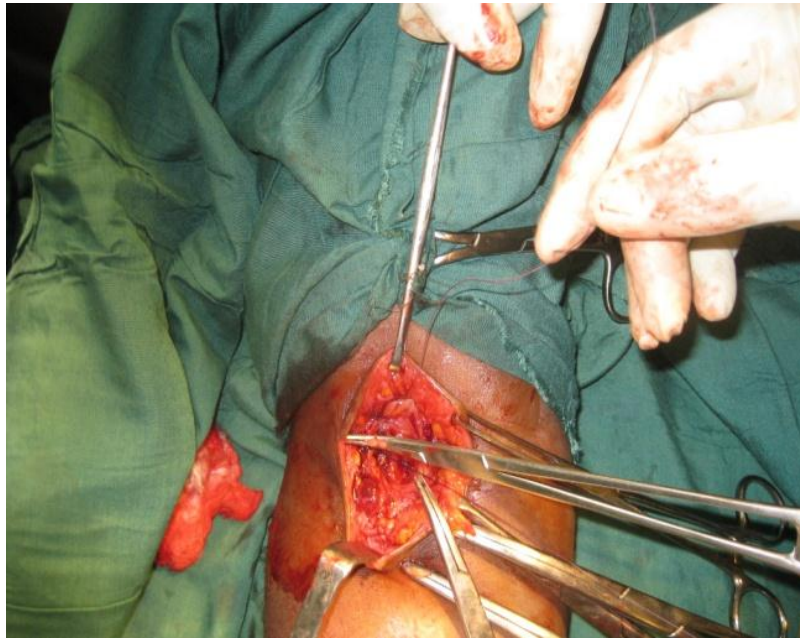


Figure 5: Excised cubital fossa bed with haemostats

DISCUSSION

Lipoma arises as a proliferation of the primordial adipose cells rather than adult fat cell whose proliferation result in a condition referred to as lipomatosis. Preponderance in females than males is seen, with a common age ranging in 5th and 7th decade.^{1,2,5} This reported case is of a younger generation approaching her 3rd decade. Prevalence of lipoma is about 1% of the population.⁵ They are slow growing painless swellings but a rapidly increasing size should herald the exclusion of a malignant disease of which liposarcoma is the commonest form of sarcoma in white males occurring in the 4th to 6th decade,^{2,3,8} but among black people, fibrosarcoma is the most common, at almost twice the incidence as whites or Asians, and most patients were older than 30 years⁸ while Adigun et al⁹ found that it constituted the highest at 36.4% of the total soft tissue sarcoma in a sub-Saharan nation. This reported case had history of difficult venepuncture and it may have rent the fascial plane for the protruding deep lipoma. Trauma has been suggested in the occurrence of lipoma by some pundits with cytokines and growth factors as triggers,⁵ while others suggest that blunt trauma ruptures fibrous septa connecting the skin and deep fascia that allows adipose tissue to proliferate.³ Thus, location can be a basis for classifying lipoma into superficial or deep but subcutaneous lipoma can have intramuscular involvement⁵ and in others, it

can be multiple such as adiposus dolorosa (also called Dercum's Disease) - a rare condition with painful lipomas.¹⁰ Regardless of the mechanism of a rapid growth of a lipoma, ruling out malignancy should be paramount in the upper limb as rapid growth of more than 5cm and intramuscular location are high risk factors for malignancy.² A FNACB done was not suggestive of malignancy in this case, however, possibility of a misrepresentative sampling has inclined some to recommend Magnetic Resonance Imaging (MRI) before trying a biopsy as lipoma shows a pseudocapsule surrounding a mass with a homogenous fat signal that can be helpful in delineating the extent of growth and its attachment² while due to increase vascularity of septal structures, Gadolinium enhanced MRI scan can distinguish a well differentiated liposarcoma from a lipoma, with the former also showing little fat.^{2,3} Balakrishnan⁴ reported a 43 year old man with lipoma of the arm with preceding history of trauma from weight lifting while Allen² in his review of eight (8) lipomas of the upper extremities found a 61 yrs old man with intramuscular triceps lipoma who denied history of trauma but MRI suggested previous injury with biceps atrophy. Thus, for the reported case, a haematoma formation as a sequel to vascular access cannot be overlooked in the diagnostic puzzle. Fluctuant nature of the swollen apex could be entertained for a seroma formation of

a haematoma or more likely an abscess as a differential diagnosis though needle aspiration was negative, while the doughy feels of a normal lipoma was not typically felt in her case.¹ MRI is our best option for imaging but it's not obtainable in the centre besides its high cost. Recurrence rate of lipoma can be as high as 50% even after presume total excision, emphasizing the need for a diligent attention during surgery.² Other option include liposuction after malignancy had been ruled-out.^{2,3,4} She had extended prophylactic antibiotic use, despite being a clean wound, for my concern about her mindset on the cause of her problem and the out-patient care. Besides, infection rate for clean wound has being found to be about twice high with 8.1% in out-patient and 4.5% for in-patient in a prospective study of 1964 clean wounds, with two-third (2/3) of the overall infection rate occurring after discharge¹¹ while Surgical Site Infection (SSI)

risk varied by risk category from 1.1% to 15.8 % by the Study of Efficiency of Infection Control (SENIC) and from 1% to 5.4% by the National Nosocomial Infections Surveillance (NNIS), even within the category of clean wounds.¹² Mehorta et al reported a 4th recurrence of lipoma on the trunk that was contagious, encapsulated, over 8000g and measuring 106 x18cm in an 82 year old (arguably the largest recurrent lipoma).⁶ This reported case had no recurrence after 11 months.

CONCLUSION

Venepuncture is a likely trigger of the giant cubital fossa lipoma camouflaging as haematoma resulting from traumatic attempt at vascular access, as atypical presentation does occur. This report adds venepuncture to the list of traumatic causes that precipitated a giant cubital fossa lipoma which the current scientific literature shows paucity of.

REFERENCES

1. McTighe S, Chernev I. Intramuscular lipoma: a review of literature. *Orthop Rev.* 2014; 6:5681
2. Allen B, Rader C, Baigian A. Giant lipomas of the upper extremity . *Can J plast surg* 2007;15(3):141-144
3. Durmus M, Dal A M, Yapici A K, Avsar S, Bayram Y. Giant intramuscular lipoma of the arm: A case report and review of literature. *Hand Micro Surg* 2014; 3:87-90.
4. Balakrishnan C, Nanavati D, Pane T. Giant lipoma of the upper extremity: Case reports and a review of literature. *Can J plast surg* 2012 Autumn; 20 (3):e40 - 41.
5. Kayal B, Hussain A. A rare case of giant lipoma of the upper extremity with uncommon presentation: a case report. *ISJR* 2014; 3(2):211-213
6. Mehrota .S, Bhatia M, Rana V. Giant recurrent lipoma of the trunk weighing eight kilogramme. *MJAFI* 2015; 71:S119-S201
7. Ortega R, Sekhar P, Song M, Hansen C.J, Peterson L. Peripheral intravenous cannulation. *N Engl J Med* 2008; 359:e26
8. NG VY, Scharschmidt TJ, Mayerson JL, Fisher JL. *Anticancer research* 2013; 33:2597 - 2604
www.ar.ilarjournals.org/content/33/6/2597.full.html [Accessed on 4 MAY 2016]
9. Adigun IS, Rahman GA, Buhari MO, Ogunidipe KO, Omotayo JA. Soft tissue sarcoma in black Africans: pattern, distribution and management dilemma. *J Nat Med Ass* 2007; 99(1):88-93
10. Myung G, Fang M.A. Dercum's disease-a mimic of fibromyalgia. *Proceedings of UCLA healthcare* 2015
11. Reid R, Simcock JW, Chisholm L, Dobbs B, Frizelle FA. Post discharge clean wound infection incidence underestimated and risk factors overemphasized. *ANZ J Surg* 2002; 72(5):339-343
12. Horan TC, Pearson ML, Silver LC, Jarvis WR, the Hospital Infection Control Practices Advisory Committee. Guideline for the prevention of surgical site infection. *Infect Control Hosp Epidemiol* 1999; 20:247-280.