



## Case report

## Multiple angioliipoma of the hand, back, and abdomen; a case report

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## ABSTRACT

**Introduction:** Angioliipoma is a rare and benign variant of lipoma that usually occurs as single or multiple entities. The aim of this study is to present a case of multiple angioliipoma located in the hand, back, and abdomen.

**Case report:** A 38-year-old male presented with multiple swellings in his body for a 6-year duration. Physical examination revealed 3 painless masses in the hands, back, and abdomen. Laboratory findings were normal and ultrasound (US) examination suggested multiple body lipoma. The patient was managed with total excision and histopathological examination confirmed the diagnosis of benign angioliipoma. No reoccurrence was observed upon follow-up.

**Discussion:** Angioliipoma mainly composed of a mixture of proliferating blood vessels and mature adipose tissues, with a degree of vascularity much higher than that of a normal lipoma. It has a slow growing nature that it can be presented as single or multiple neoplasia. It is reported to be more common in the young adult population with male predominance.

**Conclusion:** Angioliipoma is a rare variant of lipoma. It rarely occurs in the hands, especially as a painless mass. Histopathology is required for definitive diagnosis.

## 1. Introduction

Lipoma is a benign neoplasm consisting of adipocytes with a mesenchymal origin. They can be found in any part of the body where fat exists and are characterized by proliferating blood vessels [1]. Angioliipoma is a rare and benign variant of lipoma that usually occurs as a subcutaneous tumor. It has a hypervascularity exceeding that of normal lipoma, especially if thrombosis is present within the blood vessels [2,3]. These tumors can occur as single or multiple tumors, and are usually located in trunk and upper extremities, and rarely in other areas such as hand, spinal region, breast, gastric, lungs, kidney [4,5].

The aim of the current study is to present a case of multiple angioliipoma located in the hand, back, and abdomen. The report is written according to SCARE 2020 guidelines [6].

## 2. Case presentation

## 2.1. Patient information

A 38-year-old male presented with multiple swellings in his body for a 6-year duration. He had history of hypertension taking various anti-hypertensive medications. Past surgical history was unremarkable.

## 2.2. Clinical findings

Upon physical examination, there were 3 painless masses in different parts of the body, including the hands, back, and abdominal wall. They have similar characteristics, which were soft, mobile and mildly tender. Vital signs were normal.

## 2.3. Diagnostic approach

Hematological tests were within normal ranges. Ultrasound (US)

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examination suggested multiple body angioliipoma with the largest one measuring 16 mm in the back.

#### 2.4. Therapeutic intervention

The patient was managed by total excision under general anesthesia. Tissue sample was obtained and sent for histopathological examination which confirmed the diagnosis of benign angioliipoma which were well defined proliferation of mature adipocytes without significant variation in size admixed with focal proliferating capillary sized vessels and focal hemorrhage.

#### 2.5. Follow-up and outcome

The operation was uneventful and the patient was discharged home in a good health. The patient was free from recurrence after six months.

### 3. Discussion

Angioliipoma is an uncommon benign subtype of lipoma, mainly composed of a mixture of proliferating blood vessels and mature adipose tissues, in addition, fibrin thrombi are commonly observed [7]. It was first reported in 1912 by Bowen and associates, and in 1960, Howard et al. described angioliipoma as a clinically and histologically different variant of lipoma, as the degree of vascularity of angioliipoma was much higher than that of a normal lipoma [8,9].

There exist two types of angioliipomas based on the presence or absence of the capsule; non-infiltrating and infiltrating angioliipoma, respectively [10]. The pathogenesis of these tumors is not yet completely understood and two theories are currently present to explain their pathogenesis; one theory proposes the congenital malformation, while the other suggests the influence of external stimuli such as trauma in prompting pluripotent mesenchymal cells to develop into tumors [11].

Angioliipoma has a slow growing nature. It can be present as single or multiple neoplasia. It mostly occurs in the subcutaneous tissue of trunk and upper extremities; however, they are rarely seen in the hands and lower extremities [5]. The case in this report presented with 3 masses at different locations, including the hands. Angioliipoma has a sporadic occurrence; however positive familial history has also been reported in a minority of the cases [12]. It appears to be more common in young adults with male predominance, and can rarely occur in children and the elderly population [5]. Angioliipoma often present as a painful and tender mass. It is usually associated with a history of trauma [4]. The masses in the current case lacked pain and a history of trauma was absent.

The preoperative diagnosis of angioliipoma usually includes; US which typically shows a hyperechoic mass computed tomography (CT), and Magnetic resonance imaging (MRI). However, these methods have a low accuracy in providing the definitive diagnosis for these tumors [13,14]. Hence, histopathological examination is often required to provide definite diagnosis [15]. These tumors are usually reported as a soft, lobulated, and encapsulated mass [16]. Histopathology of angioliipoma often reveals encapsulated nodules containing mature adipocytes and vascular proliferation with hyalin fibrin thrombi [4]. The diagnostic findings in this case were consistent with the literature.

The appropriate approach in the management of angioliipomas is total excision or liposuction [16]. The non-infiltrating subtype generally lack reoccurrence after excision [11]. However, the infiltrating subtype is associated with a 35% to 50% reoccurrence, hence wide excision with clear margins is required to decrease the chance of reoccurrence [17].

In conclusion, angioliipoma is a rare variant of lipoma that is rarely presented in the hands, especially as a painless mass. It can occur as single or multiple entities. It is associated with a very low reoccurrence rate. Histopathological examination is required to provide the definite diagnosis.

### Consent

Written informed consent was obtained from the patient for publication of this case report and accompanying images. A copy of the written consent is available for review by the Editor-in-Chief of this journal on request.

### Provenance and peer review

Not commissioned, externally peer-reviewed.

### Ethical approval

Approval is not necessary for case report (till 3 cases in single report).

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### Guarantor

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Not applicable.

### CRediT authorship contribution statement

Hunar A. Hassan, Hemn A. Hassan: Writing the manuscript, literature review, final approval of the manuscript.  
Rebwar A. Ali, Diyar A. Omar, Fahmi H. Kakamad: literature review, final approval of the manuscript.  
Abdulwahid M. Salh: Sumajor contribution of the idea, literature review, final approval of the manuscript.

### Declaration of competing interest

None to be declared.

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