Pseudosarcoma of the morbidly obese: Massive Localized Lymphedema
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Section: Musculoskeletal system
Area of Interest: Musculoskeletal bone Musculoskeletal soft tissue
Procedure: Diagnostic procedure
Procedure: Surgery
Imaging Technique: MR
Imaging Technique: RIS
Special Focus: Oedema Inflammation Case Type: Clinical Cases
Authors: Nápoli A., Bossio P., Lanzillotta M., García X., Fernández G., Inzeo R., Perrota L., Bruno C.
Patient: 45 years, male

Clinical History:
A 45-year-old male patient, morbidly obese, presented a soft-tissue tumor in the right thigh, which had been growing in size during the previous six months. No surgical history. Clinical examination revealed a large pedunculated mass, mobile, soft, and painless, associated to trophic changes in the surrounding skin.

Imaging Findings:
MRI showed a soft-tissue mass, pedunculated, which involved the skin and subcutaneous tissue without compromising the fascia or the adjacent muscle planes, formed by an adipose matrix with inflammatory changes, with some septums of fibrous aspect. The dermis looked thickened and edematous. After administration of intravenous paramagnetic contrast, lesion enhancement was observed, probably related to its inflammatory component.

Discussion:
Background: Massive localized lymphedema, or pseudosarcoma, is an uncommon benign pathology, mainly affecting morbidly obese patients with an age range of 25 to 70 years. Its etiology has not been fully elucidated; however, this process is probably related to an obstruction located at the level of the lymphatic drainage, or due to different factors involved. The risk factors for the development of this pathology are: overweight, sedentarianism, history of axillary or inguinal lymphadenectomy, history of severe trauma, significant weight loss after bariatric surgery, post-surgical of hernioplasty or scrotum, and endocrinological alterations such as hypothyroidism.
Clinical perspective: It is characterized by a large pedunculated mass, accompanied by trophic changes in the surrounding skin, acquiring a “peau d’orange” aspect [1], located mainly in the thigh, although it can also be present, less commonly, in the scrotum, inguinal region, abdomen, popliteous hole, and at suprapubic level.
Due to the dimensions this mass may acquire, added to the physical contexture characteristic of these patients, radiological evaluation of this pathology is difficult, especially with magnetic resonance imaging because of the size of the coils, tumor location, resonator tube diameter and different possible artifacts.
Imaging Perspective: Massive localized lymphedema, also called pseudotumor, due to its macroscopic
characteristics and size, could simulate a liposarcoma. However, the presence of vascular tissue at the level of the union of adipose and connective tissue, as well as the absence of cellular atypia and invasion of adjacent muscle tissue would rule out diagnosis of the latter [4].

The surgical treatment was chosen with a very good evolution in the coming months.

The final diagnosis anatomiopathological report, revealed a proliferation of mature adipocytes, delimited by dense fibroconnective tracts, richly vascularized, together with the presence of an infiltrate of monoclonal cells and fibroblasts associated to alterations in the surrounding skin, in which different degrees of parenchymatous atrophy coexist with fibrosclerosis.

Outcome: Since there is a direct correlation between the disease and morbid obesity, a conservative treatment is applied, consisting in hygienic-dietary measures such as weight reduction, compression of the affected zone, manual lymphatic drainage and correct skin hygiene, which would complement the surgical treatment, regarded as treatment choice. This behavior reduces morbidity and prevents future infections, besides providing the accurate diagnosis [1, 2, 3].

**Differential Diagnosis List:** Massive Localized Lymphedema or Pseudosarcoma, Liposarcoma, Low-degree cutaneous angiosarcoma associated to lymphedema

**Final Diagnosis:** Massive Localized Lymphedema or Pseudosarcoma

**References:**

**Figure 1**

Description: Axial T1 (A), T2 (B), STIR (C) and T1-contrast (D) images show a large subcutaneous pedunculated mass on the internal side of the right thigh (large arrows). Small arrows shows artifacts.

Description: Coronal T1 (A) and T1 contrast (B) images show a subcutaneous pedunculated mass which presents a small pedicle (small arrows). Marked dermal thickening is evidenced (large arrows), with no compromise of the muscle planes. Origin: Nápoli A, MR Department, Fundación Científica del Sur, Diagnóstico por Imágenes Adrogué, Buenos Aires, Argentina.
Description: A. Before surgical treatment at the moment of MR evaluation. Pedunculated mass on the internal side of the thigh, shows “pau d’orange” without erimatous changes in the surrounding skin. After procedure in B. Origin: Nápoli A, MR Department, Fundación Científica del Sur, with permission of the Dr. Inzeo R.(Hospital Interzonal General Agudos Pedro Fiorito), Diagnóstico por Imágenes Adrogué, Buenos Aires, Argentina