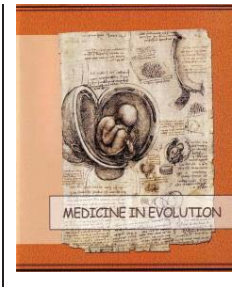


# Surgical treatment of a giant tumor resembling an inguinal hernia



**Bejinariu C.G., Manescu Obreja R.C., Boghian L.M., Marinescu S.A.**

*Department of Plastic and Reconstructive Surgery, "Bagdasar-Arseni" Emergency Clinical Hospital, Bucharest, Romania, 12 Soseaua Berceni, 041915, Bucharest, Romania*

*Correspondence to:*

*Name: Catalin Gheorghe Bejinariu*

*Address: "Bagdasar-Arseni" Emergency Clinical Hospital, Bucharest, Romania, 12 Șoseaua Berceni, 041915, Bucharest, Romania*

*Phone: +40 724572908*

*E-mail address: drbejinariu@gmail.com*

## **Abstract**

The paper's aim is to present a case of successful diagnosis and treatment of a male patient with a giant lipoma of the right groin area. The patient was hospitalized in the Plastic Surgery Department at "Bagdasar-Arseni" Emergency Clinical Hospital. The particularity of this case is given by the area involved, the close boundaries with important anatomical structures, the large size of the tumor and the potential differential diagnosis. As lipomas with such localization are considered to be a rare pathology, orientation of preoperative diagnosis is fundamental for planning the surgical protocol. Taking into consideration the minimum period of hospitalization, the rapid functional recovery and the degree of patient satisfaction, the result of the therapeutic approach was a success.

**Keywords:** giant lipoma, femoral hernia differential diagnosis, inguinal tumor.

## INTRODUCTION

Lipomas are the most common benign soft tissue masses that can develop in the human body. Histopathologically, they consist of mature adipocytes surrounded by a fibrous capsule. The inguinal region is one of the rarest localisations. At this level, the tumor can be subcutaneous or intramuscular. Symptoms regarding nerve and vessel compression or muscle belly impairment can be noticed. Tumors exceeding 5 cm in size are treated as locally malignant and need special care in diagnosis and treatment. Treatment consists of local resection, which sometimes can be difficult, because of poor tumor borders that lead to incomplete resection, resulting in tumor recurrence.

## CASE REPORT

### I. Anamneses

A 62-year-old Caucasian male patient presented at our clinic with a giant tumor located in the right groin region. From the pathological antecedents the following were conclusive: myocardial infarction with stent mounting (2017), high blood pressure, trauma due to a road accident with bilateral anterior thigh wounds, post-traumatic bilateral occlusion of superficial femoral arteries (1993), left femoral popliteal bypass (1993). The patient denied drugs or food allergies.

The tumor appeared approximately 10 months ago and gradually increased in size and volume. The patient had no symptoms, except for a slight pain in the right side of the inguinal area.

### II. Clinical examination data

During the clinical examination of the right groin region a giant tumor was palpated. The skin-colored tumor had a round-oval shape and a dimension of 12 cm long and 8 cm wide. It was well delimited by the surrounding tissues, soft, elastic, and movable on the adjacent planes. Passive and active reductions were not possible. At the level of the anterior side of the thighs, there were identified posttraumatic, old, soft, smooth, white scars. No locoregional adenopathies were noticed. Testicles were painless and normal in size and consistency. The abdominal examination was also normal.

### III. Paraclinical investigations

Preoperatively, a MRI of the lower abdomen and pelvis was performed (Fig. 1). In the MRI report the following were described:

- The image of a right inguinal hernia with fat cell tissue (having a diameter of about 15 mm, through a defect of about 12 mm, at the level of the right groin);
- Inguinal lipomatous degenerated adenopathies, situated bilaterally, of 22 mm, without pathological significance;

A voluminous space replacement structure, located at the level of the external right groin region, extended in the upper portion of the anterior thigh, with maximum axial diameters of 117/76 mm, developed subfascially, at the level of the right sartorius muscle, with thick, regular walls and fine septa; the lesion is well delimited by the adjacent vascular and muscular structures, having suggestive characters for a lipoma.

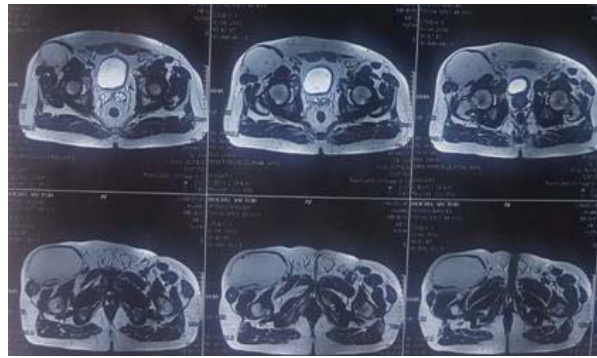


Figure 1. Lower abdomen and pelvis MRI

#### IV. Treatment and evolution

The surgery was performed under spinal anesthesia. An S-shaped surgical incision, centered on the tumor surface was made and then meticulous dissection in anatomical planes with exposure and protection of the vessels and nerves was done.



Figure 2. Voluminous lipoma mass in the right inguinal region, covered by sartorius muscle- intraoperative aspect

A giant tumor, measuring about 12 cm × 8 cm, covered by sartorius muscle was highlighted and completely removed (Fig. 3 and Fig. 4).



Figure 3. Intraoperative view of the lesion



Figure 4. The macroscopic appearance of an encapsulated fat tissue tumor

Rigorous hemostasis control and negative pressure drainage installation followed. The tumor excised was sent for histopathological examination, in order to establish a certain diagnosis. Wound closure was performed by intradermal suture technique (Fig. 5).



Figure 5. Drainage installation and wound closure using the intradermal suture technique

The presumptive diagnosis of giant lipoma of the groin region was pathologically confirmed. The report described a well-defined encapsulated mass of mature adipocytes-characteristic features for a benign lipomatous tumor.

During hospitalization, the patient was given antibiotic, analgesic and anticoagulant treatment. The immediate postoperative evolution was favorable, so the patient was discharged home during the healing process, in the second day after surgery and subsequently being reassessed regularly after the intervention (Fig. 6). Regarding complications, we mention seroma and minimal wound dehiscence.



Figure 6. The aspect 14 days postoperative after suture removal

## DISCUSSIONS

The particularity of this case is given by the area involved, the close boundaries with important anatomical structures, the large size of the tumor and the possible differential diagnosis.

Lipomas located in this specific anatomical region are rarely mentioned in the specialized literature, so wrong orientation of preoperative diagnosis may occur [1].

Differential diagnosis should consider other pathologies, which typically occur at this site such as: inguinal hernia, femoral hernia, malignant tumor, cyst of the spermatic cord, inguinal adenopathy, ectopic testicle and aneurysm of great saphenous vein [2].

A lipoma in the right groin region may be confused with an inguinal hernia, due to similar symptoms and physical examination findings. The inguinal region is a weak area of the antero-lateral abdominal wall, arising from the adoption of the bipedal position [3-5]. As in all cases of hernia, it consists of the externalization of viscera in a peritoneal sac, through a weak point. Inguinal hernia consists of the presence of a pseudotumoral structure that deforms the area, with the possibility of reduction in the abdomen [6].

Femoral hernia consists of the externalization of viscera in a peritoneal sac at the groin-femoral region, through the femoral ring or other weak points. The inspection shows a pseudotumoral structure, of round-oval shape, which increases in size at the effort of coughing. Percussion can highlight the sound if in the sac is part of the intestine [7].

A sarcoma is a rare, malignant, soft tissue tumor which usually occurs in the thigh - that should also be kept in mind for the differential diagnosis.

An inguinal adenopathy, an ectopic testicle and a venous aneurysm should be mentioned, even though the tumor size is larger in the case presented. An ectopic testicle can be suspected if we notice its absence in the scrotum. In case of a venous aneurysm we can notice that it fills immediately after palpation.

Further investigations such as ultrasonography, computed tomography or magnetic resonance imaging should be considered in the differential diagnosis of inguinal masses. So, preliminary diagnosis of a tegumentary elevation in the groin region is crucial, both to provide the best therapeutic solution and to perform the most appropriate surgery [8].

Intraoperatively, careful dissection should be performed, under direct visual control, protecting the femoral vascular-nerve bundle. In this case, the deep localization under the sartorius muscle, made the surgical approach of the tumor even more difficult. Respecting the above mentioned indications, the excision was completely achieved and the surgery was a therapeutic success.

## CONCLUSIONS

Lipoma of the groin region is considered to be a rare pathology. This situs may lead wrongly to other diagnoses (such as inguinal hernia, femoral hernia, malignant tumor, cyst of the spermatic cord, inguinal adenopathy, ectopic testicle, aneurysm of great saphenous vein), if we take into consideration only the clinical criteria.

In case of misdiagnosis, there is a high risk of intraoperative complications.

Preoperative diagnosis is fundamental for planning the surgical approach.

Further investigations such as ultrasonography, computed tomography or magnetic resonance imaging should be considered in the differential diagnosis of inguinal masses.

Open surgical treatment with wide approach is the best solution in this case.

Sending the excised mass to histopathological examination is mandatory in the diagnostic scheme.

Patients should be followed up regularly after surgical treatment for early detection in case of tumor recurrence.

## REFERENCES

1. Gerych I., Ivankiv T., Ogurtsov O., Giant right groin lipoma mimicking inguinal hernia, *Int J Surg Case Rep.*, 2015, 12, 106-107.
2. Siemionow M., Klein M., *Plastic and Reconstructive Surgery*, Springer, 2010.

3. Marinescu S.A., Bejinariu C.G., Sapte E., Marinas M.C., Giuglea C., Complications related to breast reconstruction after mastectomy using multiple surgical techniques - a national and international comparative analysis. *Rom J Morphol Embryol.* 2019; 60(1), 87-93.
4. Wroński K., Surgical treatment giant spermatic cord lipoma - case report, *Borgis - New Medicine*, 2013, 2, 44-46.
5. Erdogan H, Oncu F., Arslan S., Arslan F.Z., Durmaz MS., Giant Inguinal Mass Diagnosed as Testicular Mixed Germ Cell Tumor. *Clin Med Img Lib* 4:087, 2018.
6. Bejinariu C.G., Marinescu S., Lower Limb Salvage Using the Medial Hemisoleus Flap Associated with the Reverse Sural Flap. *J Med Life*, 2019, 12(4), 461-465.
7. Bekara F., Herlin C., Mojallal A., Sinna R., Ayestaray B., Letois F., Pierre Chavoin J., Garrido I., Grolleau J.L., Chaput B., A Systematic Review and Meta-Analysis of Perforator-Pedicled Propeller Flaps in Lower Extremity Defects: Identification of Risk Factors for Complications. *Plastic and Reconstructive Surgery*, 2016, 137(1), 314- 331.
8. Yuksel M.E., Tamer F., Oz E., A giant groin lipoma mimicking an inguinal hernia: a case report, *Our Dermatol Online*, 10(1), 2019, 38-40.