SURGICAL TREATMENT IN A CASE OF GIANT SCROTAL LYMPHEDEMA

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Summary.- OBJECTIVE: Scrotal lymphedema (SL) is a rare clinical pathology with multiple etiologies. We report a case of idiopathic giant scrotal lymphedema and review the existing medical literature in Medline from the last ten years.

METHODS: We report the case of a male patient with a giant scrotal lymphedema (43x 40 cm) of unknown etiology developed over four years.

RESULTS: The patient was treated by scrotal excision and reconstruction with skin graft plasty, with a successful result.

CONCLUSIONS: Scrotal lymphedema is a rare entity, especially in industrialized countries. If the lymphedema is severe, surgery is the most appropriate therapeutic option, whatever the cause is. Complete resection up to healthy tissue and surgical reconstruction is the choice. Thin skin grafts are necessary for reconstruction when it affects the entire scrotum.


INTRODUCTION

Scrotal lymphedema (SL) is a rare clinical pathology with a multiple etiology. Primary lymphedema is caused by lymphatic system malformations. Filariasis is the most frequent cause all over the world. However, in industrialized countries, scrotal lymphedema is secondary to other pathologies or iatrogenic interventions, as chronic infections, oncologic surgery with or without lymphadenectomy, pelvic radiotherapy (1). Whatever the cause is, surgery is the treatment in severe scrotal lymphedema cases (2,3,4). We report a case of idiopathic giant scrotal lymphedema treated by scrotal excision and reconstruction with skin grafts plasty and we reviewed the existing medical literature in Medline in the last ten years.
CASE REPORT

We report a male, 46 years old, without interesting medical history, who asked for medical attention at hospital emergency room because he had paresthesias in the right upper limb, secondary to a carotid thrombus. On physical examination, apart from neurological symptoms, it was noted an increased scrotal volume, aspect of which he had never consulted, despite of four years of evolution. He had psychological consequences, sexual dysfunction and walking troubles, because of the scrotal size.

Physical examination showed an enlarged scrotum until the knees, covering the penis, and “orange peel” with serous and purulent secretion (Figure 1).

Medical tests showed, both in ultrasound and magnetic resonance, a giant scrotal bag with heterogeneous diffuse thickening of the tunics, which wrapped the penis, and normal testes. The toraco-abdominal-pelvic CT scan ruled out blockage or compression as a cause of lymphedema; it detected only a hepatic nodule which didn’t grow in successive controls. The laboratory studies found leucocytosis with increased neutrophils and a normal urinary analysis, at the beginning. Scrotal exudate culture was positive by Staphylococcus Aureus and Corynebacterium Striatum. All other medical studies were normal.

Before scrotal surgery, he was treated with antibiotics (amoxicillin-clavulanic), scrotal local cures and carotid artery surgery.

In a deferred way, an excision was done around the pathologic scrotum until the healthy tissue, including the perineum, after locating the penis and spermatic cords (Figure 2). Penile and scrotal reconstruction was made by plasty with thin skin grafts, taken from the lower limbs and abdomen. The surgical specimen weighed 13.800 kg and measured 43 x 40 cm. Three months after surgery, the patient presented a normal penis and scrotum (Figure 3).

DISCUSSION

The SL is a pathology with low frequency, especially in countries where filariasis is not present; and such infection is its main cause worldwide. Most common primary lymphedema are congenital defects, which affects very rarely to genital area. In industrialized countries, the most frequent etiologies are iatrogenic interventions, like inguinal lymphadenectomy or pelvic radiotherapy. Infections have been reported as the origin of scrotal lymphedema, such as hidradenitis suppurativa or asymptomatic Chlamydia Trachomatis infections. In our case, we could think about it, because we found an abscessified SL and purulent collections. The temporal relationship was scrotal enlargement prior to infectious complications; Chlamydia serology was also negative. It raised the differential diagnosis with scrotal lymphangioma, a benign tumor result of dilation of lymphatic vessels that usually appears in childhood and only affects the skin, with blisters and inflammatory reaction (lymphedema causes accumulation of lymph in soft tissues). We ruled out other possible causes, including abdominal-pelvic compressive pathology with imaging tests.

The patient had no pain or other alterations, except those due to the volume problem. This caused great...
difficulty regarding walking, erectile dysfunction (penis was wrapped by the elephantoid mass) and serious psychological and social relationships consequences. It was surprising that the patient had not consulted the increase in scrotal size, despite four years of progress and this was an exploratory finding in the emergency room, where he had gone for another reason.

After reviewing the literature we can say the surgical treatment is indicated in moderate or severe SL (2,3,4). In mild cases, conservative treatment can be attempted with hygienic and compressive measures, drugs (benzo-pyrones), but there haven’t been long-term successful results (7,8).

Most authors agree, that in moderate and severe cases, a complete resection of skin and subcutaneous tissue must be done, with a posterior reconstruction with skin grafts (7,8,9). In our case, treatment was a complete excision of pathological tissue reaching to healthy tissue. We began surgery with a horizontal incision over the pubis. A careful dissection was carried out to localize the penis and spermatic cords. Next, a complete excision of the piece took place, including the perineum, which was affected. There have been reported many cases of lymphedema relapse after surgery.

To avoid it, the resection of all diseased tissue, even to healthy tissue is a key factor. Skin grafts were necessary for reconstruction because of the resection size. The skin grafts were thin in order not to change the thermoregulation of the sperm production (9). Several authors discuss about the kind of flap or graft that must be used, like posterolateral skin flap of the scrotum, thigh or abdomen flaps, or medium thickness grafts, to preserve, as far as possible, the ideal conditions of spermatogenesis (2, 4, 5, 10). Lymphatic system reconstruction techniques have been described, although their indications and success are not clear (9).

**CONCLUSIONS**

Scrotal Lymphedema is a rare entity, especially in industrialized countries. If the lymphedema is severe, surgery is the most appropriate therapeutic option, whatever the cause is.

The complete resection over to healthy tissue and the surgical reconstruction is the choice. Thin skin grafts are necessary for reconstruction when it affects the entire scrotum.

**REFERENCES AND RECOMMENDED READINGS**

(*of special interest, **of outstanding interest)


Summary.- OBJECTIVE: To describe the clinical and radiological features, and the role of imaging in diagnosis and extension study of testicular lymphoma (TL).

METHODS: Testicular and inguinal color Doppler ultrasound, extension study Multidetector Computed Tomography (MDCT), and Doppler ultrasound and MDCT in an upper extremity metastasis were performed.