

Original Research Article

Discovery of Scrotal Elephantiasis during a Free Surgical Treatment Campaign for Adult Hydroceles at the Koutiala Reference Health Centre

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Abstract: Scrotal elephantiasis (scrotal lymphoedema) is defined as an increase in scrotal volume that can reach a very large size. It has functional (burying of the penis), aesthetic and psychological repercussions. This is an extreme feature of lymphatic filariasis, which is mainly seen in endemic filarial areas. Outside these areas, this condition is rare and is usually idiopathic, rarely congenital. We report a case of scrotal elephantiasis treated by wide excision of the pathological scrotal wall and scrotal plasty, with a good functional and aesthetic result.

Keywords: Elephantiasis, scrotum, lymphoedema, urology.

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INTRODUCTION

Filariasis is a group of endemic tropical diseases caused by viviparous nematodes, filariae, which share group serological reactions and sensitivity to diethylcarbamazine, but have symptoms specific to each filariasis [23].

In Mali, the parasite responsible for lymphatic filariasis is *W. Bancrofti*; it occurs nocturnally and is transmitted by anopheles, in particular *Anopheles gambiae sensu lato* and *Anopheles funestus*, the same vectors as for malaria.

Lymphatic filariasis, which is usually inapparent, is usually acquired in childhood, causing lifelong damage to the lymphatic system. The case reported here is a case of scrotal elephantiasis.

- In communities where the disease is endemic,

10-50% of men have genital lesions, including hydrocele, elephantiasis of the penis and/or scrotum.

After several months or years of evolution, filariae can cause chronic orchio-epididymitis, hydrocele or scrotal elephantiasis in the male genital area.

Scrotal elephantiasis (scrotal lymphoedema) is an increase, sometimes considerable, in the volume of the bursa, with an unsightly appearance and definite psychological damage. Diagnosis is clinical.

The aim of our work is to draw attention to the clinical and therapeutic aspects of this rare condition.

CLINICAL OBSERVATION

This 47-year-old patient, with no particular

pathological history, consulted us on 9 September 2019 for a considerable increase in the volume of the bursa that had been evolving for 27 years.

Clinical examination revealed an enormous

bursa measuring 47 cm in circumference and 50 cm in length, making it difficult to walk, with thickened skin dotted with small pustules and an unburied penis (figure 1). The rest of the examination was normal.



Figure 1: Large scrotal elephantiasis without penile burial

Scrotal ultrasound showed thickening of the scrotal walls, but no intra-vaginal fluid effusion.

The microfilaria test was negative, and the blood count showed a non-specific hyper-eosinophilia with no nephrotic syndrome.

A filaricidal treatment based on:

- Ivermectin (Mectizan): 200 to 400 µg/kg in 1 dose, every 6 months.
- Albendazole: Zentel®: 400 mg x 2 times a day.

Surgical removal of the bursa under local anaesthetic weighing 2 kg (Figure 2) was performed, with scrotal plasty (Figures 3).



Figure 2: Scrotal resection parts weighing 2 kg



Figure 3: Scrotal plasty after resection

The post-operative course was straightforward, and the sutures were removed on day 15^{eme}.

Follow-up at three and six months was unremarkable.

Pathology was consistent with scrotal lymphoedema of inflammatory origin.

DISCUSSION

Scrotal elephantiasis is a sometimes monstrous enlargement of the bursa, a complication of filariasis.

It is mainly seen in countries where filariasis is endemic, and mainly affects men from the fourth decade of life [23]. This male predominance remains unexplained to this day.

Outside filarial endemic areas, scrotal elephantiasis is most often idiopathic, rarely congenital or secondary.

Congenital scrotal lymphoedema is part of lymphangiomas, which are non-regressive, dysplastic, congenital dilatations of the lymphatic system [8].

Secondary scrotal lymphoedema is an acquired lymphangiectasia due to obstruction of the lymphatic tract following an acquired condition of mechanical or chronic inflammatory origin such as an abdominal or pelvic tumour, after pelvic carcinological surgery, after streptococcal infection, after radiotherapy, sequelae of chronic venous stasis or surgery for urogenital bilharziasis, Kaposi's disease or filariasis.

Elephantiasis most often affects the scrotum or the penoscrotal region, isolated penile involvement being rare, but the epididymo-testicular contents are almost always respected [12, 23].

Mohamed Halila *et al.*, report a case of penoscrotal elephantiasis and a case of scrotal elephantiasis in a patient with Kaposi's disease [23].

Most authors have treated 1 of penoscrotal elephantiasis, thus Nasehi A, *et al.* reported a case of penoscrotal elephantiasis [18].

Ndoye *et al.*, report 11 cases of penoscrotal elephantiasis with 6 patients presenting with urethral stricture [13].

Denziger S, *et al.*, treated a case of giant scrotal elephantiasis of inflammatory origin in a diabetic [19].

Hinyokikakiyo reported a case of scrotal elephantiasis three years after treatment for penile carcinoma [20].

Tammer Moi, and treated scrotal oedema in hereditary congenital elephantiasis. [21]. Treatment is surgical, based on wide excision of the pathological scrotal wall.

Some conservative techniques aimed at improving lymphatic drainage have been described, such as lymphangioplasty using polyethylene or metal tubes, or lymphatic-venous anastomosis (Nielubowicz operation) between the arch of the long saphenous vein and the superficial inguinal lymphonodal group [6-8], but the permeability of the anastomosis is temporary. These techniques have been abandoned.

Surgical removal is followed by scrotal plasty, for which several techniques have been described:

- Two posterolateral scrotal flaps, which are often preserved, allow a neoscrotum to be reconstructed. This technique has been used by many authors and continues to give good functional and aesthetic results [9, 10, 14, 23].
- Inguinal or suprapubic pedicled skin flaps [1, 2, 13, 23].
- Two fasciocutaneous flaps of the thigh.

In our study, we performed a scrotal excision and plasty in one case and a scrotal excision and plasty in the other. Halila *et al.*, performed a penoscrotal excision and plasty in one case and a scrotal excision and plasty in the other case in a patient suffering from Kaposi's disease [23].

Recalde Losada C, *et al.*, treated two cases of severe elephantiasis lymphoedema in which they performed lymphangiectomy and reconstruction using local perineal flaps with symptomatic improvement in quality of life and no recurrence one year after treatment [21].

Yasser M, *et al.*, Surgical management of giant scrotal lymphoedema in morbidly obese patients with trisomy [21].

CONCLUSION

Scrotal elephantiasis is a rare condition. It is diagnosed clinically, with radiological investigations and blood tests to rule out a secondary cause.

Treatment is always surgical, with a wide plasty of the pathological scrotal skin and a scrotal plasty using two posterolateral scrotal flaps, giving a good functional and aesthetic result.

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