



## SCROTAL ELEPHANTIASIS: ABOUT ONE CASE AND LITERATURE REVIEW

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### Abstract

Scrotal elephantiasis (scrotal lymphedema) occurs mostly in filarial endemic areas. Outside these areas, this pathology is rare and is most often idiopathic, rarely congenital or secondary.

We report a case of scrotal elephantiasis in a 39-year-old man with no previous history and a progressive increase in scrotal volume over the past 4 years.

**keywords** : Elephantiasis, scrotum, surgery.

### INTRODUCTION

Scrotal elephantiasis (scrotal lymphedema) occurs mostly in filarial endemic areas. Outside these areas, this pathology is rare and is most often idiopathic, rarely congenital or secondary. Scrotal elephantiasis is an increase, sometimes considerable, of the volume of the bursa with an unsightly aspect and a certain psychological harm. The diagnosis is clinical [1].

### PATIENT AND METHODS

We report a case of scrotal elephantiasis in a 39-year-old man with no previous history and a progressive increase in scrotal volume over the past 4 years.

The clinical examination found penile-scrotal elephantiasis respecting the glans and the two lower limbs (Figure 1). The rest of the examination was normal. The search for microfilariae in the blood was negative. Exploration of the vascular axis of the lower limbs was normal. We performed a surgical resection of the purse (Figure 2) with a satisfactory anatomical and aesthetic appearance (Figure 3).



Figure 1 Big purse.



Figure 2 Procedure after resection of pathological scrotal tissue.



Figure 3 Postoperative appearance.

### DISCUSSION

Penoscrotal elephantiasis can be defined as an abnormal collection of protein-rich fluid in the subcutaneous tissue due to local alteration of oncotic or hydrostatic pressure. It is most often secondary to mechanical obstruction of the lymphatic canals either by

inflammation and fibrosis or by adult worms [2, 3]. Outside the filarial endemic areas, scrotal elephantiasis is most often idiopathic, rarely congenital or secondary [1]. Congenital scrotal lymphedema is part of lymphangiomas, which are dilatations of the lymphatic system, of dysplastic, non-regressive congenital origin [4]. Secondary scrotal lymphedema falls within the scope of acquired lymphangiectasias due to obstruction of the lymphatic pathways which is the consequence of an acquired disease of mechanical or inflammatory origin such as surgical scar, abdominal or pelvic tumor, after pelvic carcinological surgery after streptococcal infection, After radiotherapy, sequelae of chronic venous stasis or surgery of urogenital bilharziasis, Kaposi's disease, filariasis [1]. Elephantiasis most often affects the scrotum or penoscrotal system, with isolated penile involvement rare, but the epididymotesticular content is practically always respected [5]. On the clinical side, the skin becomes thick, cardboard and loses its elasticity. The penis can be completely buried in the scrotum preventing sexual intercourse and occasionally causing micturition [2,6].

Radiological or isotopic bipedal lymphography sometimes shows pathognomonic aspects of lymphatic filariasis with staggered lymphatic blockages, lymphangiectasia, lacunar granular ganglionic hypertrophy with sometimes a 'wool skein' aspect.

Lymphography is also used to evaluate the possibilities of lymphovenous surgical anastomoses. This technique has its limitations and there is not always agreement between lymphographic images and surgical exploration [7, 8]. Scrotal magnetic resonance imaging (MRI) allows a tissue characterization well correlated with histology Especially allowing to specify the limits of the surgical resection [9].

The treatment is surgical, based on a wide excision of the pathological scrotal wall thus preventing recurrence. Some conservative techniques to improve lymphatic drainage have been described such as lymphangioplasty by polyethylene or metallic tubing, or lymphatic-venous anastomosis (Nielubowicz operation) between the saphenous vein stock and the inguinal superficial lymph node group [4,10,11], but the permeability of the anastomosis is temporary [5]. These techniques have been abandoned. The second type of technique involves a radical excision of the elephantiasic tissue to prevent recurrence. This excision allows the removal of the lymphatic and thus realizes a total superficial lymphangiectomy. Several plastic surgery techniques have been described for scrotal reconstruction after this radical excision. These techniques include: - The use of pediculated skin flaps taken from the inguinal or supra-pubic region [6, 12, 13, 14].- The use of thin skin free graft [2,3]. This method can however modify the testicular local thermal regulation- The use of the cranio-dorsal part of

the scrotum, often preserved, which allows the reconstruction of a neo-scrotum. This method, used by many authors, seems to give a good functional and aesthetic result [2, 3, 6, 14, 15, 16]. For penile skin grafting, thin free skin should be used which must be placed spirally to avoid longitudinal or circular retraction on the penis [15, 17, 18]. The results of this surgery are excellent with a good functional and aesthetic result and little recurrence.

## CONCLUSION

Scrotal elephantiasis is a rare disease. The diagnosis is clinical and radiological explorations eliminate a secondary cause. The treatment is always surgical, with extensive resection of affected areas and scrotal reconstruction.

## Conflicts Of Interest

The authors do not declare any conflicts of interest.

## References

1. Halila M, Ounaes A, Saadani H, Braiek S, el Kamel R, Jemni M. Scrotal elephantiasis. *Prog Urol.* 2003 Feb;13(1):140-142.
2. Ollapallil Jj, Watters Da. Surgical management of elephantiasis of male genitalia. *Br J Urol.* 1995 Aug; 76(2): 213-215.
3. SKOOG SJ. Verrucous elephantiasis of the scrotum: an unusual variant of genital lymphedema. *J Urol.* 1986 Apr; 135(4) : 799-800.
4. Jonathan Hr, Robert K, Randell Jy, Kennet A. Primary lymphedema of the genitalia in children and adolescents. *J Urol.* 1998 Oct; 160(4):1485-1489.
5. Mianne D, Jacob F. Pathologie inflammatoire du scrotum. *EMC Nephrol Urol.* 1999; 18-640-A-10, 6 p.
6. Dandapat Mc, Mohapatro Sk, Patro Sk. Elephantiasis of the penis and scrotum: a review of 350 cases. *Am J Surg.* 1985 May; 149(5) : 686-690.
7. Arteaga C, Salamand P, Mianne D, Martet G, Raillat A, Briant Jf. Aspects IRM de l'éléphantiasis scrotal filarien : corrélations IRM anatomopathologiques. *J Radiol.* 1997 Dec ; 78(12) : 1285-1287.
8. Samsoen M, Deschler Jm, Servelle M, Raiga Jc, Lelievre G, Tardieu Jc. Le lymphodème péno-scrotal : 2 observations. *Ann Dermatol Venereol.* 1981 ; 108(6-7) : 541-546.
9. Slama A, Jaidane M, Elleuch A, Ben Sorba N, Yacoubi MT, Mosbah AF. Traitement chirurgical d'un éléphantiasis péno-scrotal. *Prog Urol.* 2002 Apr;12(2):337-339.

10. Huang GK. Microsurgical therapy of scrotum elephantiasis. *Z Urol Nephrol*. 1989 Sep; 82(9): 459-462.
11. Huang Gk, Hu Rq, Liu Zz, Pan GP. Microlymphaticovenous anastomosis for treating scrotal elephantiasis. *Microsurgery*. 1985;6(1): 36-39.
12. Apesos J, Anigian G. Reconstruction of penile and scrotal lymphedema. *Ann Plast Surg*. 1991 Dec; 27(6): 570-573.
13. Khedroo Lg. Reduction perineoplasty for scrotal elephantiasis: a method of surgical reconstruction of the penis and scrotum. *J Urol*. 1976 Nov; 116(5): 679-680.
14. Ndoeye A, Sylla C, Ba M, Gueye Sm, Diagne BA. Point of technique: management of penile and scrotal elephantiasis. *BJU Int*. 1999 Aug; 84(3): 362-364.
15. KONETY BR, COOPER T, FLOOD HD, FUTRELL JW. Scrotal elephantiasis associated with hidradenitis suppurativa. *Plast Reconstr Surg*. 1996 May; 97(6): 1243- 1245.
16. WILLE S, NIESEL T, BREUL J, HARTUNG R. Elephantiasis of the legs with lichen sclerosus and atrophicus of the penis and scrotum. *J Urol*. 1997 Jun; 157(6): 2262.
17. HOLMAN CM Jr, ARNOLD PG, JURKIEWICZ MJ, WALTON KN. Reconstruction of male external genitalia with elephantiasis. *Urology*. 1977 Dec; 10(6): 576-578.
18. RAGHAVIAH NV. Reconstruction of scrotal and penile skin in elephantiasis. *J Urol*. 1977 Jul; 118(1 Pt 1): 128.

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