

THE SURGICAL APPROACH IN HUGE SCROTAL LYMPHEDEMA

Hiren D Parmar

Smt. NHL Municipal Medical College, Ahmedabad, Gujarat, India

Correspondence to: Hiren D Parmar (drhirenparmar@gmail.com)

DOI: 10.5455/ijmsph.2013.2.153-155 Received Date: 11.08.2012

Accepted Date: 29.09.2012

ABSTRACT

Giant Scrotal Lymphoedema is a rare disease. Such Scrotal elephantiasis presents multiple problems both to the patient as well as the treating clinician obstruction, aplasia, or hypoplasia of the lymphatic vessels. The most common cause worldwide is lymphatic Filariasis. A case where the resected scrotal tissue weighed 30kg which is one of the largest so far mentioned in literatures. The lymphedema was progressive over 15 year's duration and the testes were not palpable with the penis deeply buried. There is no effective medical treatment for filariasis. There are different surgical methods for scrotal filariasis in the literature. In this case, the patient was treated by Modified Charles procedure. Once fibrosis sets in resectional therapy will be needed in most cases. Successful reduction scrotoplasty with acceptable cosmetic results can be obtained in giant scrotal lymphedemas weighing as large as 30kg as in this case.

KEY-WORDS: Filariasis; Huge Scrotal Lymphedema; Modified Charles Procedure

Introduction

Filariasis is a parasitic disorder.^[1] There are endemic zones for filariasis in India and Uttar Pradesh is one of them.^[2] The patient came from Uttar Pradesh with huge scrotal lymphedema since last fifteen years. Scrotal elephantiasis, or massive scrotal lymphedema, is a disease that is caused by obstruction, aplasia, or hypoplasia of the lymphatic vessels draining the scrotum. The scrotal skin is thickened and may exhibit ulcerations in severe cases. It can be either congenital or acquired in nature, with the most common acquired etiology being infection. The most common infections leading to scrotal elephantiasis are lymphogranuloma venereum or filarial infestation with *Wuchereria bancrofti*. The rare occurrence of these infections in Western nations makes scrotal elephantiasis an uncommon disease outside of Africa and Asia. Other causes of this disease include chronic inflammation, neoplasm, irradiation, and lymph node dissection. If the lymphedema is severe, surgery is the most appropriate therapeutic option, whatever the cause is.^[3] 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. The surgical treatment in the form of modified Charles procedure^[4] is appropriate in such case.

Case Report

A 45 year old male individual having a hugely distended scrotum and barely perceptible penis, unable to maintain his livelihood on account of his handicap and socially withdrawn for the fear of humiliation, got admitted into the Surgery department. The patient was from Uttar Pradesh, India. He had this scrotal swelling since last 15years. He had difficulty in walking and sitting due to huge scrotal swelling. It also hampered his sexual life. On local examination, there was a bilateral thickening of scrotal skin with enlargement of bilateral scrotum up to 10 centimetres below his knee joint (e.g. figure 1). The penis was totally buried. On the basis of clinical, serological and haematological examinations, diagnosis was established as lymphatic filariasis causing elephantiasis of the scrotum. After assessment for operative feasibility, the patient underwent a surgery in the form of Modified Charles procedure. In this method, the excision of the affected skin followed by scrotoplasty and midline suture simulating the scrotal raphe. The penis is covered with a split-thickness skin graft by means of a zigzag suture on its ventral surface. Bilateral testicles were preserved which placed in neoscrotum. A negative suction drain was kept. The excised skin of both scrotum was weighted around 30 kilograms. Post-

operative recovery was well (e.g. figure 2). In follow up, there was an infection of the skin graft of the penis which was treated with regular dressing.



Figure-1: Pre-operative Photo



Figure-2: Post-operative Photo

Discussion

Lymphatic filariasis is a major health problem in India with most infections caused by *Wuchereria bancrofti*.^[5] Filariasis is an important cause of disability, both because of its social stigma and because of psychosocial damage and economic

losses. The disease is ranked by the World Health Organization (WHO) as the second leading cause of permanent and long-term disability, and has been targeted for elimination by 2020.^[6] In life-cycle of *Wuchereria bancrofti*, man is a definitive host and culex mosquito is an intermediate host.^[7] Pathogenesis of lymph scrotum is not well understood. The parasite-induced lymphatic remodelling and lymphangiogenesis may be the prelude towards developing chronic and irreversible filarial pathology.^[8] Chronic (Obstructive) lesions take 10-15 years. This is due to the permanent damage to the lymph vessels. Initially there is a pitting oedema which gives rise to brownish oedema leading to hardening of tissues. Still late, hyper pigmentation, keratosis, wart like lesions developed. E.g. Hydrocele (40-60%), Elephantiasis of Scrotum, Penis, Leg, Arm, Vulva, Breast, Chyluria. The laboratory tests^[9] to diagnose are following: (1) Demonstration of microfilarae in the peripheral blood. (2) Immuno Chromatographic Test (ICT) (3) Quantitative Blood Count (QBC) (4) Ultrasonography (5) Lymphoscintigraphy. There is no effective medical treatment for filariasis.^[10] There are different surgical methods for scrotal filariasis in the literature.^[11,12] The results of the modified Charles procedure show a dramatic functional improvement in quality of life and a high overall satisfaction rate.^[13] For the treatment of penoscrotal lymphedema, It is easily reproducible and allows better local hygiene, easier ambulation, voiding in the standing position, resuming sexual intercourse, and finally, better cosmetic results in the affected area with remarkable improvement in quality of life.^[14]

Conclusion

Giant scrotal lymphedema related to poverty, ignorance and neglect, is amenable to surgery. Surgery provides a cosmetically acceptable and functionally satisfying outcome.^[15]

References

1. Matthews KR. Controlling and coordinating development in vector-transmitted parasites. *Science* 2011;331:1149-53.
2. Singh S, Dhariwal AC, Bora D, Lal S. Status of lymphatic filariasis in Lucknow District, Uttar Pradesh. *J Commun Dis* 2009;41:39-44.

3. Hidalgo ER, García-Moreno AL, González EB, Crespo AS, Casado BA, Núñez Jde L. Surgical treatment in a case of giant scrotal lymphedema. *Arch Esp Urol* 2011;64:121-4.
4. Modolin M, Mitre AI, da Silva JC, Cintra W, Quagliano AP, Arap S, et al. Surgical treatment of lymphedema of the penis and scrotum. *Clinics (Sao Paulo)* 2006;61:289-94.
5. Raju K, Jambulingam P, Sabesan S, Vanamail P. Lymphatic filariasis in India: epidemiology and control measures. *J Postgrad Med* 2010;56:232-8.
6. Nuchprayoon S. DNA-based diagnosis of lymphatic filariasis. *Southeast Asian J Trop Med Public Health* 2009;40:904-13.
7. Michalski ML, Griffiths KG, Williams SA, Kaplan RM, Moorhead AR. The NIH-NIAID Filariasis Research Reagent Resource Center. *PLoS Negl Trop Dis* 2011;5:e1261.
8. Bennuru S, Nutman TB. Lymphatics in human lymphatic filariasis: in vitro models of parasite-induced lymphatic remodeling. *Lymphat Res Biol* 2009;7:215-9.
9. Mendoza N, Li A, Gill A, Tying S. Filariasis: diagnosis and treatment. *Dermatol Ther* 2009;22:475-90.
10. Katiyar D, Singh LK. Filariasis: Current status, treatment and recent advances in drug development. *Curr Med Chem* 2011;18:2174-85.
11. Thejeswi P, Prabhu S, Augustine AJ, Ram S. Giant scrotal lymphoedema - A case report. *Int J Surg Case Rep* 2012;3:269-71.
12. Gafur MA, Bhuiyan JH, Zaman T, Shamsuzzaman AB, Islam SM. Giant penoscrotal filariasis. *Mymensingh Med J* 2008;17:201-5.
13. van der Walt, Johannes C, Perks, Timothy J, Zeeman, Barend J. et al. Modified Charles Procedure Using Negative Pressure Dressings for Primary Lymphedema: A Functional Assessment. *Annals of Plastic Surgery* 2009;62:669-675.
14. Miguel Modolin, Anuar Ibrahim Mitre, José Carlos Faes da Silva, Wilson Cintra, Ana Paula Quagliano, Sami Arap, et.al. Surgical treatment of lymphedema of the penis and scrotum *Clinics* 2006;61:289-294.
15. Rahman GA, Adigun IA, Yusuf IF, Aderibigbe AB, Etonyeaku AC. Giant scrotal lymphedema of unclear etiology: a case report. *J Med Case Rep* 2009;3:7295.

Cite this article as: Parmar HD. The surgical approach in huge scrotal lymphedema. *Int J Med Sci Public Health* 2013; 2:153-155.

Source of Support: Nil

Conflict of interest: None declared