



Case Report

Idiopathic Scrotal Elephantiasis: Case Report of a Rare Occurrence

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Abstract

Idiopathic scrotal elephantiasis is a rare yet physically and psychologically debilitating condition characterized by chronic lymphedema of the scrotum. This case report presents an 18-year-old male with progressive scrotal enlargement over seven years. The patient applied to our clinic due to discomfort and occasional discharge. Clinical examination revealed scrotal edema without systemic involvement. Diagnostic imaging excluded other pathologies. Surgical intervention was planned, and 1.2 kg of excess tissue was meticulously excised while preserving the testes and spermatic cords. No complications were observed during the postoperative recovery period that necessitated secondary surgical intervention.

Treatment options for idiopathic scrotal elephantiasis range from conservative management, such as elevation, compression therapy, and skin care, to surgical interventions, including vascularized lymph node transfer (VLNT) and lymphaticovenous anastomosis (LVA), in addition to tissue excision. This case report aims to underline the significance of early diagnosis, tailored treatment, and comprehensive postoperative care.

Keywords: Idiopathic scrotal elephantiasis, lymphaticovenous anastomosis (LVA), lymphedema, scrotal enlargement, scrotal lymphedema, vascularized lymph node transfer (VLNT).

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Lymphedema is the pathological and excessive accumulation of protein-rich fluid in the interstitial compartment of the body. This edematous condition not only significantly reduces the quality of life but also, in various cases, results in fibrosis and cellulitis formation within the soft tissues.^[1] Lymphedema can be localized in various parts of the body, including proximal regions and distal extremities; it may manifest with regional weight gain and pain, loss of skin color, limited range of motion, and decreased mobility.^[2] Lymphedema is classified into primary and secondary types based on etiology.

Primary lymphedema, which can be congenital or acquired, develops due to anomalies and diseases related to the lymphatic system. It is classified as congenital if diagnosed within the first two years after birth, as praecox lymphedema if diagnosed between 2–35 years of age, and as tarda lymphedema if diagnosed after the age of 35. Congenital lymphedema is associated with several genetic diseases such as Turner syndrome, Klinefelter syndrome, and trisomies.^[3] Secondary lymphedema, on the other hand, typically results from impaired or obstructed lymphatic system function due to previous surgery, infection, malignancy, or

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scar tissue formation. Secondary lymphedema (iatrogenic) is more commonly observed in developed and developing countries. In the lower extremities, the pelvic and inguinal lymph nodes, and in the upper extremities, the axillary lymph nodes, are frequent sites of obstruction.

The following case study discusses isolated scrotal elephantiasis, a rare condition in the literature, with respect to the Surgical Case Report (SCARE) criteria^[4]—a 14-item checklist (title, keywords, abstract, introduction, patient information, clinical findings, diagnostic assessment and interpretation, intervention, follow-up and outcomes, discussion, patient perspective, informed consent, additional information, clinical images and videos, and referencing the checklist)—published to provide a structured framework for reporting surgical case reports.

Case Report

An 18-year-old male patient (BMI=26.7) presented with a complaint of progressive scrotal enlargement causing significant discomfort for approximately seven years, occasionally accompanied by a leaking discharge. Physical examination revealed an asymmetrically enlarged scrotum measuring approximately 12×10 cm, which was edematous and soft on palpation, with no skin discolorations. No lesions were observed on the scrotum. As a consequence of scrotal enlargement, the penis was almost completely buried. The testes were non-palpable due to edema. No masses were detected in the scrotum or inguinal region, and no swelling was observed in any other part of the body, including the lower extremities (Fig. 1). Transillumination tests were negative, and no abnormalities were observed in the development of external genitalia. The patient's medical and family history did not reveal any chronic illnesses, regular medication use, recent weight loss, difficulty in urination, trauma, or

previous surgeries. There was no travel history to areas endemic for filariasis.

The patient, who did not present with any sexual dysfunction, underwent routine tests, including complete blood count, liver and kidney function tests, complete urine analysis, C-reactive protein, prostate-specific antigen, sedimentation rate, fecal occult blood test, and stool microscopy. All these tests were within normal limits. An ultrasound examination revealed diffuse thickening of the scrotal wall with areas of edema and sporadic calcifications but no evidence of hydrocele or varicocele. Upon consultation with urology, preoperative spermogram (sperm analysis) revealed the absence of sperm cells. Following the decision for surgery, the patient was informed about the procedure and expected outcomes.

The operation was performed under spinal anesthesia. An incision was made along the median raphe and extended on both sides of the scrotum. Initially, the tunica albuginea layer was dissected under the skin to expose the right testis, followed by the left. Both testes and spermatic cords were identified and preserved. Approximately 1.2 kg of excess skin and subcutaneous tissue was excised. Bilateral fasciocutaneous flaps were then elevated, and hemostasis was achieved. The elevated fasciocutaneous flaps were repositioned accordingly. Two hemovac drains were placed in the surgical site (Fig. 2).

The patient was monitored in the hospital postoperatively for four days with dressing changes, suspension underpants, and antibiotic therapy. The patient was discharged following the removal of drains on the fourth postoperative day. Pathology confirmed a diagnosis of scrotal lymphedema, and the patient was scheduled for outpatient follow-up. During the first, second, and sixth-month follow-up visits after surgery, no complications were observed (Figs. 3 and 4).



Figure 1. Preoperative photograph.



Figure 2. Preoperative photograph.



Figure 3. Postoperative second month photograph.

Discussion

Lymphedema is a chronic condition resulting from the accumulation of lymphatic fluid due to pathology in lymph nodes or channels. Lymphedema affecting the external genital organs is rare and may have multiple simultaneous etiological factors. Clinical presentations vary widely, ranging from mild to severe swelling of the penis and scrotum to voluminous verrucous lymphedema.^[5] Consequently, patients may present with various complaints, including but not limited to recurrent pain, itching, chronic irritation, recurrent infections, sexual dysfunction, and difficulty in walking.^[6]

Primary lymphedema is classified based on the age of onset: congenital lymphedema, the rarest form (10–20%), appears from birth to two years of age, whereas the most common subtype, praecox lymphedema (80%), manifests suddenly during adolescence; lymphedema tarda refers to cases that occur after the age of 35.

While primary lymphedema commonly manifests in the lower extremities, it is notably rare in the genital area. In the medical literature, only a few cases of localized congenital genital lymphedema have been described, with most reported lymphedema cases involving other parts of the body, especially the legs.^[7] Primary lymphedema in males may be linked to genetic syndromes such as Turner syndrome, Noonan syndrome, Yellow Nail syndrome, and anomalies such as microcephaly, extradural cysts, intestinal lymphangiectasia, protein-losing enteropathy, and gonadal dysgenesis. Therefore, genetic analysis during preoperative assessment can assist in planning treatment and postoperative follow-up.^[8]

Patient history and physical examination play a crucial role in the diagnosis of congenital lymphedema. Differential diagnoses should include conditions that can cause edema



Figure 4. Postoperative second month photograph.

and discoloration, such as testicular torsion, varicocele, and epididymo-orchitis. Doppler ultrasonography may be preferred to exclude such differential diagnoses. Imaging modalities such as MRI, ultrasound, and lymphoscintigraphy can also aid in diagnosis and patient management. The use of fetal ultrasound can enable an even earlier diagnosis.

Secondary lymphedema most commonly occurs due to infections such as *Wuchereria bancrofti* or *Chlamydia trachomatis*. Additionally, it may result from radiation exposure, venous thrombosis, malignancy, inflammation, trauma, surgical interventions, and intravenously administered medication.^[9]

There are both surgical and conservative treatment options available for lymphedema management. In cases detected early or presenting with milder symptoms, conservative approaches are generally preferred initially. Conservative treatment, also known as Complex Decongestive Therapy (CDT), includes manual lymphatic drainage, pneumatic compression therapy, skin care, compression garments and bandaging, oral medications, limb elevation, and limb exercises, along with patient education.^[10] The second phase of this approach focuses on minimizing clinical manifestations and preventing complications.

When conservative treatment is inadequate, physiological or reductionist surgical interventions may be planned. Physiological methods aim to reduce swelling by enhancing regional lymphatic drainage through reconstructive techniques such as vascularized lymph node transfer (VLNT) or lymphaticovenous anastomosis (LVA). VLNT involves transferring healthy lymph nodes and associated blood vessels to the affected area, while LVA involves connecting lymphatic vessels to surrounding venules. Reductionist methods focus on resolving complications such as fibrosis and lipodystrophy without altering lymphatic circulation. Fibrotic or edematous tissues may be removed via

techniques such as liposuction, ablation, or direct excision. In complex cases, a combination of reconstructive and reductionist approaches may be more effective in achieving optimal outcomes.^[11]

Chronic idiopathic penile edema is a newly recognized and extremely rare condition characterized by asymptomatic edema in the genital area. This definition applies only after excluding all potential causes that could lead to acquired chronic penile edema. A history of surgery, radiotherapy, or local surgical procedures can also cause lymphedema. In adults from endemic regions, filariasis must be definitively ruled out. One of the long-term complications of chronic idiopathic penile edema is squamous cell carcinoma.^[12] Cases of bladder carcinoma accompanied by idiopathic penile edema have been reported in the literature. Therefore, MRI examination can be useful for excluding malignancy. For differential diagnosis of acquired genital edema in male patients, imaging studies such as color Doppler flow ultrasound, lymphangiography, CT, or MRI can be utilized.

In cases of scrotal elephantiasis, surgical treatment can potentially damage the spermatic cords. Therefore, it is necessary to request an ejaculate analysis from patients during the preoperative process. In this case, the spermogram (sperm analysis) revealed azoospermia (no sperm cells) both preoperatively and postoperatively. Limited literature on the association between infertility and scrotal lymphedema suggests that azoospermia could result from obstructive or non-obstructive mechanisms.^[13] Lymphatic obstruction within the scrotum can lead to obstruction of the epididymis and vas deferens. If untreated, such a chronic pathology can ultimately induce testicular ischemia or atrophy, hindering the sperm production process altogether.^[14]

Conclusion

Scrotal elephantiasis is a rare condition that can occur due to various etiologies. Presenting with a wide range of symptoms, the rarity and complexity of this disease underscore the necessity of a multidisciplinary approach to ensure effective diagnosis, treatment, and supportive care tailored to the individual patient's needs.

Disclosures

Ethics Committee Approval: This is a single case report, and therefore ethics committee approval was not required in accordance with institutional policies.

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References

1. Lu S, Tran TA, Jones DM, Meyer DR, Ross JS, Fisher HA, et al. Localized lymphedema (elephantiasis): a case series and review of the literature. *J Cutan Pathol* 2009;36:1–20. [\[CrossRef\]](#)
2. Saeed GT, Ahmad D, Al Smady MN, Awatramani G, Abdul Hamid T, Janahi F. Isolated scrotal lymphedema in a 43-year old male patient: A case report. *Int J Surg Case Rep* 2024;117:109403. [\[CrossRef\]](#)
3. Schook CC, Mulliken JB, Fishman SJ, Grant FD, Zurakowski D, Greene AK. Primary lymphedema: clinical features and management in 138 pediatric patients. *Plast Reconstr Surg* 2011;127:2419–31. [\[CrossRef\]](#)
4. Agha RA, Franchi T, Sohrabi C, Mathew G, Kerwan A; SCARE Group. The SCARE 2020 guideline: Updating Consensus Surgical CAse REport (SCARE) guidelines. *Int J Surg* 2020;84:226–30. [\[CrossRef\]](#)
5. Maclellan RA, Greene AK. Lymphedema. *Semin Pediatr Surg* 2014;23:191–7. [\[CrossRef\]](#)
6. Rockson SG. Lymphedema. *Am J Med* 2001;110:288–95. [\[CrossRef\]](#)
7. Mortimer PS. The pathophysiology of lymphedema. *Cancer* 1998;83(12 Suppl):2798–802. [\[CrossRef\]](#)
8. Chevillat AL, McGarvey CL, Petrek JA, Russo SA, Taylor ME, Thadens SR. Lymphedema management. *Semin Radiat Oncol* 2003;13:290–301. [\[CrossRef\]](#)
9. Oremus M, Walker K, Dayes I, Raina P. Diagnosis and treatment of secondary lymphedema. Rockville (MD): Agency for Healthcare Research and Quality (US); 2010.
10. Lasinski BB. Complete decongestive therapy for treatment of lymphedema. *Semin Oncol Nurs* 2013;29:20–7. [\[CrossRef\]](#)
11. Lurie F, Malgor RD, Carman T, Dean SM, lafrati MD, Khilnani NM, et al. The American Venous Forum, American Vein and Lymphatic Society and the Society for Vascular Medicine expert opinion consensus on lymphedema diagnosis and treatment. *Phlebology* 2022;37:252–66. [\[CrossRef\]](#)
12. Tebbe-Gholami M, Roest W. A man with acute scrotal swelling. *Ned Tijdschr Geneesk* 2010;154:A16. [\[Article in Dutch\]](#)
13. Friedler S, Razieli A, Strassburger D, Schachter M, Soffer Y, Ron-El R. Factors influencing the outcome of ICSI in patients with obstructive and non-obstructive azoospermia: a comparative study. *Hum Reprod* 2002;17:3114–21. [\[CrossRef\]](#)
14. Andrade-Rocha FT, Cardona Maya WD. Semen analysis in a 21 years old man ten years after scrotal lymphedema: a case report. *Braz J Case Reports* 2023;3:38–41. [\[CrossRef\]](#)