Journal of Clinical Trials and Case Studies

Open access

Elephantiasis of Right Vulva and Groin Area

Mohammed Abdul Qader[1,*], **Mohammed Almalmi**[2]

[*]Department of Dermatology and Venereology, Al-Kuwait University Hospital, Sana'a University Medical School, Sana'a, Republic of Yemen

CASE REPORT

ABSTRACT

Background: Genital elephantiasis means massive enlargement of genitals. It commonly affects the young and productive age group. Early diagnosis is important as genital elephantiasis is not completely reversible with medical therapy; late intervention often needs surgical reduction

Patients and Methods: 35 years old Yemeni woman patient presented with A flesh-coloured to red inflamed tender nodule develops. This can be painful and cause burning and itching in right vulva and groin area of year duration. There are no any investigations needed.

Results.:The clinical data for this patient is enough for diagnosis. She had elephantiasis of right vulva and groin area.

Conclusion. Genital elephantiasis is rare disease in Republic of Yemen and this case the first reported.

KEYWORDS

Elephantiasis, Right vulva, Groin area, Filariasis

Correspondence to: Dr. Qader MA, Department of Dermatology and Venereology, Al-Kuwait University Hospital, Sana'a University Medical School, Sana'a, Republic of Yemen, Email: maqma1952@gmail.com

Received: July 26, 2023, **Accepted**: August 4, 2023, **Published**: August 10, 2023

DOI: 10.1042/JCTCS.1.2.009

Citation: Qader MA, 2023, Elephantiasis of Right Vulva and Groin Area. JCTCS. Vol 2.

INTRODUCTION AND EPIDEMIOLOGY

Elephantiasis or Filariasis refers to parasitic infection caused by filarial parasites. The clinical manifestation and treatment of filariasis depends on the type of filarial parasitic worm (nematode) involved. Humans are poor hosts for this filarial parasite as the worm usually dies before reaching sexual maturity.However in recent years there has been a reported increase in the number of human dirofilariasis cases (1-10).

The head, neck, breasts, arms, legs and scrotum are most commonly affected. A flesh-coloured to red inflamed tender nodule develops. This can be painful and cause burning and itching. Genital elephantiasis means massive enlargement of genitals. It commonly affects the young and productive age group (11-17). Early diagnosis is important as genital elephantiasis is not completely reversible with medical therapy; late intervention often needs surgical reduction. Furthermore, it leads to mental anguish and physical disability as it interferes with walking and sexual intercourse and indirectly interferes with economic livelihood (18-24). Filariae have a specific geographic distribution. For example, *W bancrofti* is found in sub-Saharan Africa, Southeast Asia, India, and the Pacific Islands. *B malayi* is found in similar locations but not in sub-Saharan Africa. *B timori* occurs on Timor Island, in Indonesia. (25-30). In endemic areas, the prevalence of microfilaremia increases with age, as adult worms are gradually acquired over years. Lymphatic filariasis is first contracted in childhood, and most individuals in endemic areas have been exposed by the third or fourth decade of life. As with most helminths, adult filarial parasites replicate in a definitive host (31-37). The adult worm burden in an individual cannot increase unless the host is exposed to additional microfilaria. Infected individuals cannot sustain higher levels of parasitemia once they leave the endemic area.

Because the mosquito vector is inefficient, a relatively prolonged stay in an endemic area is usually required to acquire the infection. Disorganized urbanization is adding to the vector population and hence to the increased incidence and prevalence of such diseases in low-income countries (38-43). The filarial life cycle, like that of all nematodes, consists of 5 developmental (larval) stages in a vertebral host and an arthropod intermediate host and vector. Adult female worms produce thousands of first-stage larvae, or microfilariae, which are ingested by a feeding insect vector (44-50). Some microfilariae have a unique daily circadian periodicity in the peripheral circulation. The arthropod vectors (mosquitoes and flies) also have a circadian rhythm in which they obtain blood meals. The highest concentration of microfilariae usually occurs when the local vector is feeding most actively (51-55).

The most commonly affected nodes are in the femoral and epitrochlear regions. Abscess formation may occur at the nodes or anywhere along the distal vessel. Infection with *B timori* appears to result in more abscesses than infection with *B malayi* or *W bancrofti*. Cellular invasion with plasma cells, eosinophils, and macrophages, together with hyperplasia of the lymphatic endothelium, occurs with repeated inflammatory episodes. (56-60). The consequence is lymphatic damage and chronic leakage of protein-rich lymph in the tissues, thickening and verrucous changes of the skin, and chronic streptococcal and fungal infections, all of which contribute to the appearance of elephantiasis. (The skin of individuals with elephantiasis is characterized by hyperkeratosis, acanthosis, lymph and fatty tissue, loss of elastin fibers, and fibrosis.) *B malayi* elephantiasis is more likely to affect the upper and lower limbs, with genital pathology and chyluria being rare. Secondary bacterial infection in elephantiasis can result in blindness (60-63).

In lymphatic filariasis, repeated episodes of inflammation and lymphedema lead to lymphatic damage, chronic swelling, and elephantiasis of the legs, arms, scrotum, vulva, and breasts (64-67).

Case reported 35 years old Yemeni farmer woman patient presented to the clinic of dermatology in Sanaa. She had huge skin swelling or lymphoedema in the right vulva and groin area of year duration. She had multiple sinuses. This case diagnosed clinically without any other investigations. Surgical removal of the lesion or extraction of the worm is the only method of treatment for human infections. Microfilariae on blood smear examination: Draw blood at night, when levels of parasitemia are generally highest. The three lymphatic filarial species can also be distinguished based on their morphologic characteristics on light microscopy. Circulating filarial antigen (CFA) detection: These assays are regularly available for only *W bancrofti* detection in lymphatic filariasis. Adult worms can be seen in the lymphatics. Additional testing in lymphatic filariasis includes PCR and serology. PCR is not widely available and is mostly used in a research setting. Serology testing for filarial antibodies cannot distinguish between past and present infection and are not typically specific for filarial infections; however, specificity can be improved via assays based on certain recombinant antigens, such as Wb123 in *W bancrofti* (Figure 1 and Figure 2).

DISCUSSION & CONCLUSION

Elephantiasis is a condition characterized by gross enlargement of an area of the body, especially the limbs. Other areas commonly affected include the external genitals. Elephantiasis is caused by obstruction of the lymphatic system, which results in the accumulation of a fluid called lymph in the affected areas. Functioning as part of the immune system, the lymphatic system helps to protect the body against infection and disease. It consists of a network of tubular channels (lymph vessels) that drain a thin watery fluid known as lymph from different areas of the body into the bloodstream (68-70). Elephantiasis is caused by under-treatment of lymphedema, and due to the obstruction of the lymph vessels of the lymphatic system. As lymph moves through the lymphatic system, it is filtered by a network of small structures known as lymph nodes that help to remove microorganisms (e.g., viruses, bacteria, etc.) and other foreign bodies. Groups of lymph nodes are located throughout the body, including in the neck, under the arms (axillae), at the elbows, and in the chest, abdomen, and groin.

In addition to the lymph nodes, the lymphatic system includes the spleen, which filters worn-out red blood cells and produces lymphocytes, and the tonsils, which are masses of lymphoid tissue in the throat region that help to fight infection. Lymphatic tissues also include the thymus, a relatively small organ behind the breastbone that is thought to play an important role in the immune system until puberty, as well as the bone marrow, which is the spongy tissue inside the cavities of bones that manufactures blood cells. Lymphatic tissue may also be located in other regions of the body, such as the skin, small intestine, liver, and other organs. A diagnosis of elephantiasis is made based upon a thorough clinical evaluation, a detailed patient history and identification of characteristic symptoms. A variety of tests may be used to determine the underlying cause of lymphatic damage and subsequent elephantiasis. The best way to prevent filariasis is by preventing spread of the parasites by vector control. This means eliminating or controlling infected flies and mosquitoes. Research is underway to find a biological agent that will eliminate the vector and is inexpensive, non-toxic to humans and deployable on a large scale. For some filarial infections long-term or intermittent treatment with antihelminthic therapy have been suggested (71-77).

Figure 1: Elephantiasis of right vulva and groin area.

Figure 2: Elephantiasis of right vulva and groin area.

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