



Research Journal of Pharmaceutical, Biological and Chemical Sciences

Neglected Tropical Disease - "PODOCONIOSIS".

Jegatha C*.

Sree Balaji College of Nursing, Bharath University, No.7, Works Road, Chrompet, Chennai, Tamil Nadu, India.

ABSTRACT

The scientific name for this condition is Podoconiosis, from the Greek words for "foot" and "dust". Podoconiosis is a non-infectious type of elephantiasis (swelling of the legs). In order to distinguish it from the other types of elephantiasis commonly found in the tropics, it is also called endemic, non-filarial elephantiasis. The condition can also result in feet with an offensive smell. The swelling is painful and often the discomfort makes it impossible for the sufferer to walk.

Keywords: Podoconiosis, Elephantiasis, Lymphatic filariasis.

**Corresponding author*

INTRODUCTION

Podoconiosis also known as nonfilarial elephantiasis is a disease of lymph vessels of the lower extremities that is caused by chronic exposure to irritant soils [1]. It is a type of tropical lymphedema clinically distinguished from lymphatic filariasis through being ascending and commonly bilateral but asymmetric. It is characterized by prominent swelling of the lower extremities, which leads to disfigurement and disability.

According to WHO- 2011 podoconiosis is not an infectious or contagious agent no parasite, no bacterium, no virus is involved. It was classified as a Neglected Tropical Disease.

GLOBAL DISTRIBUTION OF PODOCONIOSIS

Podoconiosis is found in highland areas of tropical Africa, India and Central America. The highest prevalence seen in Uganda, Tanzania, Kenya, Burundi, Sudan and Ethiopia.



DISEASE BURDEN:

Population based surveys suggest a prevalence of 5-10% in barefoot population living on irritant soil. Ethiopia 1 million people are estimated to be affected, while in Cameroon, a further 500 000 people are estimated to be affected.

An estimated 4 Million people in highland tropical Africa are affected with Podoconiosis, and evidenced suggests wide spread endemicity in more than 15 countries throughout the world [2].

INCIDENCE

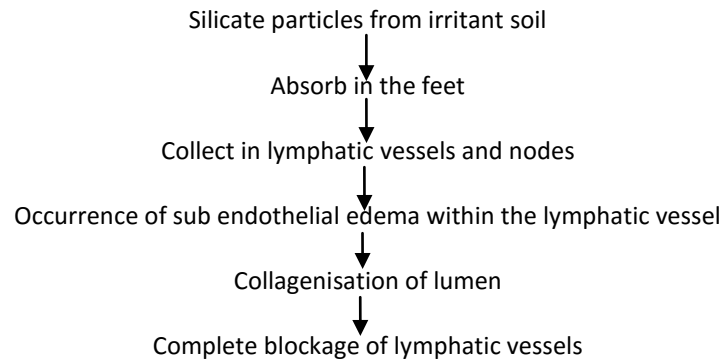
The incidence of population increase with age, likely due to cumulative exposure to irritant soil. It is very rare to see Podoconiosis in the 0-5 year's old age group, and the incidence rapidly rises from 6 to 20 years of age with the highest prevalence after 45 years. Podoconiosis is most commonly seen in higher altitude area with volcanic soil and it is estimated to affect 4 million people worldwide [3].

RISK FACTORS:



Men and women are equally affected in most communities. All of the major community – based studies have shown onset of symptoms in the first or second decade and a progressive increase in Podoconiosis prevalence up to the sixth decade. Farmers who cultural reasons or through sheer poverty do not wear shoes are at high risk, but the risk extends to any occupation with prolonged contact with the soil.

PATHOPHYSIOLOGY:



SIGNS AND SYMPTOMS:



The primary symptoms of Podoconiosis are swelling and disfigurement of the lower extremities. The swelling can either be soft and fluid or hard and fibrotic. Multiple firm nodules may develop over time, as well as hyperkeratotic papillomata that resemble moss, which has led to the disease's alternate name of mossy foot. The edema of Podoconiosis is usually bilateral and asymmetric. Prior to development of lymphatic failure and frank lymphedema, a prodromal consisting of itching, burning, hyperkeratosis, plantar edema, and rigid digits may occur. As with other forms of tropical lymphedema, chronic disease can lead to fusion of the toes, ulceration, and bacterial super infection [4]. The disease has an acute component, and sufferers may experience recurrent episodes of lower extremity warmth, firmness, and pain.

Based on

- Location
- History collection
- Clinical finding
- Blood smear
- ELISA antigen test
- Radiology
- Absence of microfilaria or antigen on immunological card test.



Local epidemiology can also be a clue to diagnosis, as Podoconiosis is typically found in higher altitude areas with volcanic soil, whereas mycetoma is found along the “mycetoma belt” between latitudes 15 south and 30 norths, and filariasis is uncommon at higher altitudes and other environments in which the mosquito vector is less prevalent.

Podoconiosis can be distinguished from leprosy by the preservation of sensation in the affected limb and the isolation of disease to the lower extremities.

IMAGING DIAGNOSIS TREATMENT:

When there is gross elephantiasis, there will be underlying bone changes and the marked soft tissue thickening can be demonstrated. In patients it may be necessary to exclude both bone and deep soft tissue infection and ultrasonography will be helpful. Lymphangiograms have shown small filling defect and blockage of regional lymph nodes bypassed by collaterals [5].

Surgical removal of a thick layer from the foot and lower leg, resembling a thick sock, has been used to make walking easier. Radiographs of the leg to exclude underlying bone infection are wise precaution before such a procedure.

PREVENTION:

PRIMARY PREVENTION:

It consists of avoiding or minimizing exposure to irritant soils by wearing shoes or boots and by covering floor surfaces inside traditional huts.

SECONDARY PREVENTION:

Training in a simple lymphedema treatment regimen, similar to that used in management of LF lymphedema. The regimen includes daily foot- washing with soap, water and antiseptic, use of a simple emollient, bandaging in selected patients, elevation of the leg, controlled exercise, and use of socks and shoes. Choose another occupation which does not involve contact with the soil [6,7].



Compression bandaging is highly effective in reducing the size of the soft type of swelling. Move to a non-endemic area (even more difficult). Mean while, treat whatever other conditions he has (parasites, anemia etc).



TERTIARY PREVENTION:

Encompasses secondary prevention measures, elevation and compression of the affected leg, and in selected cases, removal of prominent nodules. More radical surgery is no longer recommended since patients unable to scrupulously avoid contact with soil experience recurrent swelling which is more painful than the original disease because of scarring. Social rehabilitation is vital, and includes training treated patients in skills that enable them to generate income without contact with irritant soil.

CONCLUSION

The disease is widely perceived to be infectious, resulting in significant stigmatism amongst sufferers, who are frequently ostracized from their families and communities, lonely and treated as lepers. Sufferers often cannot work and earn a living, attend school or marry. They are typically in constant pain and discomfort from the condition and smell offensively through chronic infection. Only the fortunate receive family support. Some die early through starvation or infection. Podoconiosis is a modern, silent public health disaster made up of hundreds of thousands of men, women and suffering the shame of skin disease

REFERENCES

- [1] J Dtsch Dermatol Ges 2010 Jan;8(1):7-14
- [2] Desta K, Ashine M, Davey G. Trop Doct 2003;33(4):17–220.
- [3] Molyneux D H. The New England Journal of Medicine 2012;366(13): 1169–1171.
- [4] Korevaar DA, Visser BJ. Neth J Med 2012;70(5): 210–214.
- [5] Abrahams PW. Sci Total Environ 2002; 291:1-32.
- [6] Földi Ethel, Földi M, Weissleder H. Angiology 1985;36(3): 171–180.
- [7] Yakob B, Deribe K, Davey G. Trans R Soc Trop Med Hyg 2008; 102:439-44.