



Case Report

# Filarial granuloma presenting as a fibroadenoma

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Breast; Filariasis;  
Lymph node; Wucheria  
bancrofti

**ABSTRACT**

Filariasis is an infectious disease endemic in Nepal and the Indian subcontinent. However, filariasis of breast is not very common. We present a case of a 24-year female with a breast nodule diagnosed with filariasis of the lymph node on the breast on histopathological examination. An infectious pathology should always be borne in mind in the endemic region for the timely management of the patient.

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**INTRODUCTION**

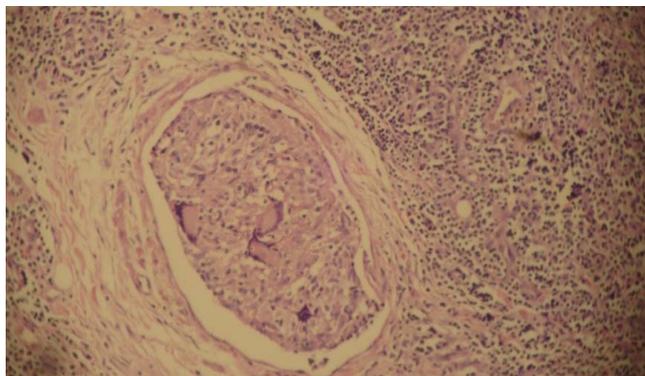
Filariasis is an infectious disease caused by larvae of *Wucheria bancrofti* and *Brugia malayi*.<sup>1</sup> Lymphatic filariasis is however a neglected tropical disease. The manifestations resulting from involvement and obstruction of the lymphatic system vary from acute dermato-lymphadenitis to lymphedema and elephantiasis. Lymphedema of various parts of the body such as the limbs, genitalia, and breast results in deformities of the affected parts.<sup>2</sup> Extra nodal sites like breasts are rarely involved and only a few cases have been reported to date.<sup>1,3</sup> The diagnosis of infectious breast

pathology should always be kept in mind in endemic regions like Nepal in cases of swelling in the breast.

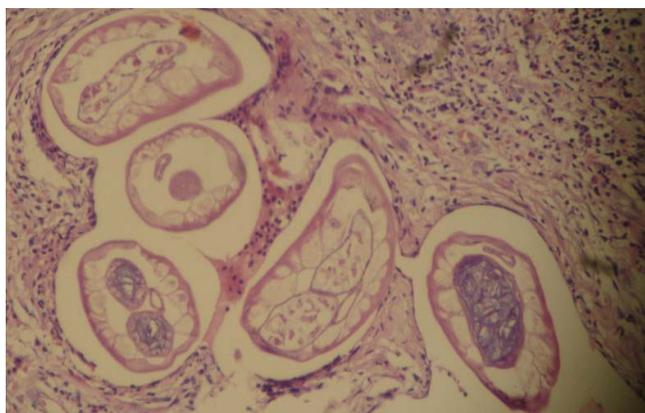
### # CASE REPORT

A 24-year-old female from Nepalgunj presented with swelling below her right breast for one month. The swelling was gradually increasing in size. On examination, there was swelling on the lateral aspect of the right breast below the inframammary fold. The nodule was 1.5x1cm, mobile, non-tender, smooth, and cystic to solid consistency. The overlying skin was normal. The axillary lymph nodes were not palpable. With a diagnosis of fibroadenoma, the nodule was excised and sent for histopathological examination.

On gross examination, there was a single, grayish-white multi-nodulated and encapsulated node measuring 1x0.5cm. The cut section showed homogenous, grayish-white areas. The microscopic examination showed lymphatic tissue exhibiting variably sized hyperplastic follicles at places. Few granulomas were noted with multinucleated giant cells. Adult worms on several planes surrounded by inflammatory cells consisting of lymphocytes, plasma cells, histiocytes, and eosinophils were noted. The worms on cross-section showed paired tubular structures containing small round bodies and empty tubular structures. It was reported as granulomatous lymphadenitis with filarial infection of the right breast.



**Figure 1:** Filarial worm surrounded by inflammatory cells (HE stain, X400)



**Figure 2:** Granuloma within a lymph node (HE stain, X400)

### DISCUSSION

Lymphatic filariasis is caused by infection with parasites classified as nematodes (roundworms) of the family Filarioidea. Over one-third of the population at risk lives on the Indian subcontinent.<sup>4</sup> More than 1.3 billion people are at risk and approximately 65% reside in the South East Asia region. Lymphatic filariasis is endemic in 61 of 75 districts in Nepal. The population at risk is about 25 million. Nepal had aimed to eliminate lymphatic filariasis by 2020 AD and to achieve a prevalence rate of less than one per hundred in all endemic districts by 2018.<sup>5</sup> Long-term travelers, persons on work assignments like humanitarian workers, missionaries, and military personnel staying at endemic areas are at risk.<sup>6</sup> Majority of cases are asymptomatic and may live for a long period of time without signs of illness. The neglected swelling may cause swelling in the genitals, breasts, arms, and legs and may also progress to lung disease.<sup>7</sup>

Man is the definitive host and the Culex mosquito is an intermediate host of the parasite. Culex mosquito ingests microfilaria from biting an infected person. These larvae develop into active motile forms and penetrate the stomach wall and finally reaching the proboscis (10–12 days) ready for further transmission to a new host. The larvae finally develop into adult worms in the lymphatic system. A female worm gives rise to 50,000 microfilaria/day.<sup>8</sup>

Intact worms produce minimal tissue reaction while degenerating parasites provoke inflammatory cell infiltration—mainly eosinophils and occasionally the development of epithelioid granulomas. The involved lymphatic vessels are eventually blocked and replaced by fibrous tissue, and the patient may present with a palpable breast mass i.e. a filarial granuloma.<sup>6</sup> The presence of host response in the form of foreign body reaction and granuloma formation is also a unique finding. The presence of any unexplained granuloma of the breast should prompt a search for a filarial etiology.<sup>9</sup>

In conclusion, swelling in the breast in endemic areas like Nepal should also raise suspicion of Filarial pathology and should be kept in the differential diagnosis.

**Conflict of Interest:** None

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