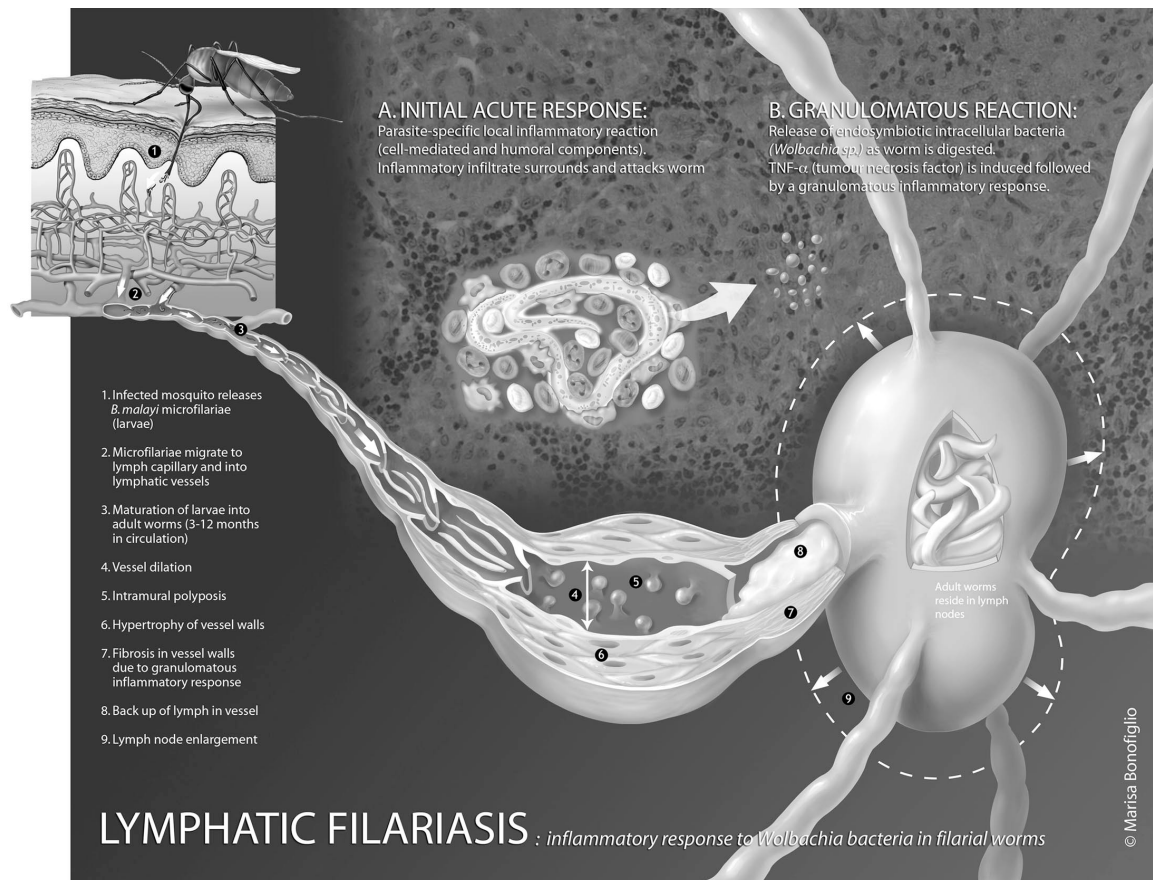


LYMPHOGRAPHIA

LYMPHATIC FILARIASIS: INFLAMMATORY RESPONSE TO WOLBACHIA BACTERIA IN FILARIAL WORMS

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An initial acute inflammatory response is the natural reaction to any foreign substance that enters the body. In the case of filariasis, defense cells attack the worm, releasing the intracellular endosymbiotic bacterium (*Wolbachia spp.*). *Wolbachia* induces TNF- α (tumor necrosis factor alpha), which in turn induces a granulomatous inflammatory response, triggering the symptoms associated with lymphedema: vessel dilatation, intramural polyposis, hypertrophy of vessel walls and, eventually, “fibrosis” in the vessel walls. This diminishes normal lymphatic function.

Over time, fibrosis and obstruction of lymph flow within the lumen lead to advanced elephantiasis of the affected part. The lymph node itself enlarges, and adult worms reside within the dilated afferent lymphatic vessels and node. Lymph node enlargement, however, is due to the immune response to the infection rather than to the growth of adult worms. This discovery is of particular importance as clinical research has recently demonstrated the efficacy of doxycycline as the first effective treatment for filariasis.

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