

Sparganosis Mimicking Cutaneous Larva Migrans

Young-Woo Sun, M.D., Tae-Jin Yoon, M.D., Woon-Mok Sohn*, Ph.D.,
Jung-Hee Lee**, M.D., Tae-Heung Kim, M.D.

Department of Dermatology, Parasitology and Surgical Pathology**,
College of Medicine, Gyeongsang National University, Chinju, Korea*

A 53-year-old man had skin-colored linear serpiginous plaque within brownish patch on his left thigh for one year. He habitually drank natural spring water for 3 years. We diagnosed this case as sparganosis infiltrated within dermis by histologic and parasitologic diagnosis. The skin lesion mimicked the cutaneous larva migrans by showing dermal migration of sparganum to produce itchy linear serpiginous plaque. We report an interesting case of sparganosis mimicking cutaneous larva migrans. (Ann Dermatol 12(4) 292~294, 2000).

Key Words : Sparganosis, Dermis, Cutaneous larva migrans

A sparganosis is the plerocercoid infection that is involved in the *Spirometra* species. As a sparganum is visceral larva migrans, the larva migrates widely and usually lodge in soft tissues like subcutaneous tissue or muscle and seldom invade to dermis in human. Clinical appearance of sparganosis is usually a soft palpable subcutaneous nodule. Cutaneous larva migrans is clinically presented as an intensely pruritic, serpiginous, skin-colored plaque and frequently caused by larvae of dog and cat hookworms. We report a patient with sparganosis that mimicked cutaneous larva migrans by atypical dermal invasion.

CASE REPORT

A 53-year-old man had an itchy brownish patch on his left thigh for one year. His past medical history and family history were unremarkable. However, he had a history of eating raw snake 20 years be-

fore and drank raw natural spring water in the mountain for 3 years. The skin lesion started as a brownish patch on his left thigh and progressed to a 1.5 cm sized skin-colored linear serpiginous plaque within the brownish patch in the last 3 months (Fig. 1). He also complained of intermittent itching.

Skin biopsy taken from the brownish patch revealed a parasitic body with inflammatory infiltrate composed of numerous eosinophils and mononuclear cells in the dermis. The second skin biopsy on the skin-colored linear serpiginous plaque contained an ivory-white sparganum, which measured about 1.3 cm in length (Fig. 2). A sectional skin biopsy found that the involved worm exhibited a characteristic pattern of noncellular tegument, cellular subtegument, and parenchyma bearing numerous bundles of muscle fibers, excretory canals, and calcareous corpuscles (Fig. 3). There was no recurrence after 9 months of follow up.

We report an unusual case of sparganosis that mimicked cutaneous larva migrans.

DISCUSSION

The tapeworm larva of the genus *Spirometra* including *Spirometra mansoni*, *S. erinacei*, and *S. mansonioides* causes Sparganosis. Humans are incidental hosts for the second-stage larva, which do not mature in human tissues. When people ingest them, the larva migrate widely and usually lodge

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Reprint request to : Tae-Jin Yoon, M.D., Department of Dermatology, Gyeongsang National University Hospital, 90 Chilam-Dong, Chinju, Gyeongnam 660-702, Korea

Tel: 82-55-750-8187

FAX: 82-55-758-8106

E-mail: heehoo@hanmail.net

* Reprint requests should be sent to the correspondent.

in subcutaneous tissue or muscle. The severity of infection depends on the route of infection, number of parasites, and the anatomic location involved¹. After human infection of sparganum was first discovered in 1881, many cases have been reported in Korea, China, Japan and Southeast Asia.

The present case mimicked cutaneous larva migrans by showing migration of sparganum to the dermis to produce an itchy linear plaque. The intense pruritus and a serpiginous, sharply demarcated skin lesion, characterize cutaneous larva migrans. Cutaneous larva migrans is usually caused by the third stage larva of dog and cat hookworms (*Ancylostoma caninum* and *Ancylostoma braziliense*), which affect people working barefoot in damp ground, like miners or tunnel workers. Once it in-

vades the skin, the larva migrates through intact skin and makes a characteristic tunnel in epidermis and upper dermis, then produces serpiginous or linear papules or plaques with itching^{2,3,4}. In contrast, sparganum is usually restricted to subcutaneous and soft tissue such as brain, breast, bowel and eye.

When Sohn and colleagues reviewed 121 proven cases of sparganosis, 70 cases (59.7%) were due to eating raw snake flesh, another 19 cases (15.7%) were caused by drinking untreated water, 18 cases (14.9%) resulted from ingesting the raw flesh of frogs, 13 cases (10.7%) by eating other kinds of raw flesh, and 1 case caused by the application of frog muscle on eyes⁵. The route of infection in present case is unclear because of its similarity to cutaneous larva migrans. Raw snake ingestion is less likely to be a causative factor, since he ate raw snake too long ago and there were no more lesions after three years of clinical follow up. We assumed that either drinking untreated natural spring water in the mountains or direct infection through skin might be responsible for this case. Considering the two possibilities, drinking natural water seems to be more likely, since he denied previous trauma at

Fig. 1. Skin-colored linear plaque (arrow heads) within brownish patch in the left thigh.

Fig. 2. In a second biopsy performed on the skin-colored linear serpiginous plaque, the white sparganum was removed from the linear plaque.

Fig. 3. In the dermis, the sectional skin biopsy showed typical sparganum with characteristic noncellular tegument, cellular subtegument, and parenchyma bearing numerous bundles of muscle fibers, excretory canals, and calcareous corpuscles. It was surrounded by numerous eosinophils and mononuclear cells (hematoxylin and eosin, $\times 100$).

the site of infection and it is usually impossible for sparganum larva to invade intact skin. As sparganum infects through gastrointestinal tract and migrates to various tissues, it would seem that it migrated through the dermis accidentally and became trapped there.

The diagnosis of sparganosis is usually confirmed by characteristic morphologic findings after surgical excision. However, precise differentiation among the species of sparganosis is impossible by plerocercoid larva detected in the human tissue. Sparganosis is always suspected in patients exhibiting a soft palpable subcutaneous nodule and with a history of eating raw snake or frog. Serologic tests, such as ELISA, and radiological studies using computerized tomography or magnetic resonance imaging may be helpful^{6,7}. Since chemotherapy using praziquantel, metronidazole or arsenical is not satisfactory, surgical excision is usually the most effective treatment as well as the definitive means of diagnosis of sparganosis^{1,8}.

This case was diagnosed as sparganosis by histopathologic and parasitic findings after surgical excision.

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