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Gnathostomiasis in a traveller returning from Madagascar

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Highlights

Gnathostomiasis is a foodborne parasitic zoonosis known to be endemic in Southeast Asia, India, Central and South America, with recent cases reported in Zambia, Botswana and South Africa. We report a case of gnathostomiasis acquired in Madagascar and alert clinicians of the emerging risk in southern Africa.

Case report

A 38-year-old Latvian female with no previous medical history presented to our clinic in Paris, France, in December 2020 with a 3-year history of intermittent migratory swellings of the left upper limb. Two years prior the onset of symptoms, she had travelled to Madagascar for a 3-months humanitarian mission. She was mostly based in Mahajanga, but roughly visited the whole island. She ate local food including seafood and fish which were always well-cooked, but also reported eating an insufficiently cooked frog that she had caught in a freshwater stream. She had no other history of travel in Sub-Saharan Africa, Asia or South America. The symptoms being intermittent, there were no abnormal findings on physical examination. Photos taken by the patient showed localized erythematous swellings of the left upper limb (arm, elbow, forearm, wrist), consistent with panniculitis (Photo 1). Episodes recurred every 3 to 4 months and lasted 2 to 4 weeks. She reported no pruritis or pain, no fever or other symptom. Blood count was within normal range, including eosinophils. Filariasis serology was positive by enzyme-linked immunosorbent assay (*Acanthocheilonema vitae*, Bordier Affinity Products, Crissier, Switzerland) but was not confirmed by immuno-electrophoresis (in house method, antigen *Ascaris suum*), and testing for peripheral blood microfilariae was negative. Serologic testing for gnathostomiasis by immunoblot, performed at the Swiss Tropical and Public Health Institute, was positive. The patient was treated with ivermectin, 0.2 mg/kg, for two consecutive days. Follow-up is ongoing without any relapse up to now.

Gnathostomiasis is a parasitic zoonosis acquired after consumption of raw or undercooked freshwater fish, shellfish, frogs, reptiles or birds containing larvae of the nematode *Gnathostoma* (*G.spinigerum*, *G.hispidum*...). It is known to be endemic in Southeast Asia, India, Central and South America, with recent cases reported in Zambia, Botswana and South Africa. The classic triad of intermittent migratory swellings usually affecting the trunk or

limbs, eosinophilia, and a history of travel to an endemic area is highly suggestive of the diagnosis¹. Other less common manifestations include creeping eruption, nodules or visceral involvement². Diagnosis is rarely confirmed by the isolation of the larvae from the lesions. Serology with immunoblot is a reliable diagnostic tool. Effective treatments are albendazole (400 mg twice a day for 21 days) or ivermectine (0.2 mg/kg for one or two consecutive days). Relapses are frequent, mostly after treatment with albendazole³.

In our case, the infection was confirmed 5 years after the patient's travel to a non-endemic area, and this long timeframe is not unusual. This is the second reported case of gnathostomiasis acquired in Madagascar⁴ and should alert clinicians of the emerging risk in southern Africa.

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Authors contribution:

O.I., G.M., M.M., L.P. and E.C. managed the patient's case.

T.R. performed the serological test.

O.I. and E.C. drafted the manuscript.

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