

## Publication

## Acute muscular sarcocystosis : an international investigation among ill travelers returning from tioman island, malaysia, 2011-2012

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**Author(s)** Esposito, Douglas H.; Stich, August; Epelboin, Loïc; Malvy, Denis; Han, Pauline V.; Bottieau, Emmanuel; da Silva, Alexandre; Zanger, Philipp; Slesak, Günther; van Genderen, Perry J. J.; Rosenthal, Benjamin M.; Cramer, Jakob P.; Visser, Leo G.; Muñoz, José; Drew, Clifton P.; Goldsmith, Cynthia S.; Steiner, Florian; Wagner, Noémie; Grobusch, Martin P.; Plier, D. Adam; Tappe, Dennis; Sotir, Mark J.; Brown, Clive; Brunette, Gary W.; Fayer, Ronald; von Sonnenburg, Frank; Neumayr, Andreas; Kozarsky, Phyllis E.; Tioman Island Sarcocystosis Investigation Team,

**Author(s) at UniBasel** [Neumayr, Andreas](#) ;

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Through 2 international traveler-focused surveillance networks (GeoSentinel and TropNet), we identified and investigated a large outbreak of acute muscular sarcocystosis (AMS), a rarely reported zoonosis caused by a protozoan parasite of the genus *Sarcocystis*, associated with travel to Tioman Island, Malaysia, during 2011-2012.; Clinicians reporting patients with suspected AMS to GeoSentinel submitted demographic, clinical, itinerary, and exposure data. We defined a probable case as travel to Tioman Island after 1 March 2011, eosinophilia (<5%), clinical or laboratory-supported myositis, and negative trichinellosis serology. Case confirmation required histologic observation of sarcocysts or isolation of *Sarcocystis* species DNA from muscle biopsy.; Sixty-eight patients met the case definition (62 probable and 6 confirmed). All but 2 resided in Europe; all were tourists and traveled mostly during the summer months. The most frequent symptoms reported were myalgia (100%), fatigue (91%), fever (82%), headache (59%), and arthralgia (29%); onset clustered during 2 distinct periods: "early" during the second and "late" during the sixth week after departure from the island. Blood eosinophilia and elevated serum creatinine phosphokinase (CPK) levels were observed beginning during the fifth week after departure. *Sarcocystis nesbitti* DNA was recovered from 1 muscle biopsy.; Clinicians evaluating travelers returning ill from Malaysia with myalgia, with or without fever, should consider AMS, noting the apparent biphasic aspect of the disease, the later onset of elevated CPK and eosinophilia, and the possibility for relapses. The exact source of infection among travelers to Tioman Island remains unclear but needs to be determined to prevent future illnesses.

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