Double trouble: Detection of rickettsialDNA in a tick removed from an otoacariasis patient

KO Bandaranayaka[1,2], SAM Kularatne[3], RPVJ Rajapakse[4], UB Abeysundara[5], RMMA Rajapaksha[5], RS Rajakaruna[1,2]

Introduction: Otoacariasis, the presence of a tick or mite in the ear canal, has been reported from many parts of the country. Here we report the presence of rickettsial DNA in a tick removed from an otoacariasis patient.

Case report: A female tick,*Rhipicephaleshaemaphysaloides*, was attached to the ear canal of a male infant aged one and half years from Kahatgasdigiliya showinghigh fever, skin rash over arms, and tinnitus at the time of hospitalization. After admission to the local health care facility, the patient had two episodes of convulsions within a 20 min period and was transferred to the Anuradhapura General Hospital, where the patient experienced two episodes of convulsions within a 3 hour period. The second attack lasted for one minute. After blood investigations and a lumbar puncture, he was diagnosed as having meningitis. After three days of hospital admission while on antibiotic treatment for meningitis (intravenous cefotaxime), he was referred to the ENT clinic due to persisting tinnitus; where otoacariasis was diagnosed through an otoscopic examination. Glycerin was administered to remove the tick from the ear canal because the patient was not fit enough to undergo suction or surgical removal. After one week, the patient was reviewed in the ENT clinic, and the tick was removed by suction. The tick specimen was collected, identified, and subjected to DNA extraction followed by a PCR to detect spotted fever group *Rickettsia* (SPGR) *hrtA* gene. The patient was followed up at the ENT clinic biweekly to assess his hearing, and he recovered after three weeks with steroid treatment (betamethasone ear drops), without major complications.

Even though rickettsial DNA was detected in the tick, diagnostic testsfor rickettsial infection were not carried out on the patient. We cannot therefore confirmthat the patient suffered from SPGR infection, but clinical symptoms of the patient and presence of a tick in the patient's ear canal having rickettsial DNA indicates a high possibility that the patient had rickettsiosis.

Discussion: The association of otoacariasis and SPGR infection can be substantial where tick infestations are high and should be kept in mind in endemic areas for rickettsioses

Keywords: Human otoacariasis, spotted fever group Rickettsia, Ticks

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[1]*Department of Zoology, Faculty of Science, University of Peradeniya, Sri Lanka*
[2]*Postgraduate Institute of Science, University of Peradeniya, Sri Lanka*
[3]*Department of Medicine, Faculty of Medicine, University of Peradeniya, Sri Lanka*
[4]*Department of Veterinary Pathobiology, Faculty of Veterinary Medicine, University of Peradeniya, Sri Lanka*
[5]*General Hospital, Anuradhapura, Sri Lanka*

Address for correspondence: Prof. RS Rajakaruna. Telephone: +94777045080Email: rupikar@pdn.ac.lk
https://orcid.org/0000-0001-7939-947X