**Persistent arthritis following Chikungunya virus infection**

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Chikungunya, a febrile arthritic illness caused by a mosquito-borne Alpha virus, is endemic in sub-Saharan Africa, South East Asia, and islands of the Indian Ocean.

**Case report**

A previously well 40-year-old woman developed a 40 degree C fever with pain in her knees, ankles, shoulders, fingers and toes while staying in a resort in Phuket, Thailand in July 2009. Seven days into the illness, a red macular eruption developed over the face, body and limbs, including palms and soles. The fever resolved after 3 days and the rash faded after a week. In the first week of illness, CRP was 20 mg/L and neutrophils were reduced at 1.64×10⁹/L. ANA, rheumatoid factor, blood cultures and serology for dengue fever were all negative.

Her joint pains continued after her return home. She developed worsening of pre-existing carpel tunnel syndrome in her right hand and underwent median nerve decompression in September. She presented for rheumatology assessment in October with persisting joint pains and prolonged morning joint stiffness. Her mother had rheumatoid arthritis.

Examination revealed mild synovitis across MTP, some MCP and PIP joints and the R. wrist joint. There was pain on movement of the left shoulder and both subtalar joints. Both plantar fascia insertions were tender. Peeling on her soles was a residuum from the rash.

Investigations showed CRP 9 mg/L, normal blood count and negative cyclic citrullinated peptide antibodies. X-rays of hands and feet were normal. She had positive anti-Chikungunya virus IgM and IgG antibodies at a titre of 1:640. Ross River IgG was detected at low titre; IgM was negative.

She was managed with naproxen 1gm daily and slowly improved. Eight months after initial infection, she stopped anti-inflammatory medication and had only mild residual MTP arthralgia.

**Discussion**

Chikungunya (CHIK V)—from the language of the African Makonde people meaning ‘that which bends up’—was first described in a male Tanzanian in 1953. Infection has since been reported extensively through South East Asia (Indonesia, Thailand, Vietnam, Singapore, India, Sri Lanka, Taiwan, Myanmar, Cameroon, Phillipines and Malaysia) as well as islands of the Indian Ocean.

Infection typically presents within 48 hours of a mosquito bite with abrupt onset of fever, chills, headache, muscle and joint pain with or without swelling. An erythematous skin eruption may appear towards the end of the first week. Involvement of major organ systems including heart and brain occurs infrequently.
The febrile viremic phase of the illness resolves within 3–7 days. Joint symptoms are usually brief but prolonged arthritis/arthralgia lasting up to 18 months has been reported in 10–20% of cases.4–6 Distribution is usually symmetric involving small more than large joints. Tenosynovitis causing carpel tunnel syndrome and lower limb enthesisitis have been reported.7

Diagnosis is serological. Specific IgM antibodies appear by 5–7 days from onset of illness followed closely by IgG antibodies.9 Serologic testing for CHIK V is not available in New Zealand and samples are forwarded to an Australian reference laboratory.

Treatment is symptomatic. Neither antiviral nor disease-modifying drugs have a proven place.8,9 Prevention requires use of effective insect repellent and covering of the skin. Aedes mosquito vectors feed during the day as well as at twilight.

Case to case spread during the febrile viraemic period is theoretically possible in any region with an appropriate vector. The principal vectors are not present in New Zealand, though are found in Pacific islands (Ae. Albopictus, Ae. polynesiensis) and in Northern Queensland (Ae. aegypti).10 There have been no locally acquired outbreaks in these areas. In 2007, a visitor to Italy, who was infected with CHIK V in India just before departure, was presumed bitten again by Ae. albopictus on arrival in Italy. This resulted in over 200 cases of CHIK-V in the Italian community over the ensuing 3 months.11

We describe here a New Zealander who developed arthritis lasting many months after CHIK V infection was contracted in Thailand. This is only the second serologically confirmed case of CHIK V notified in New Zealand. Given the prevalence of the infection in popular holiday spots of South East Asia, it is likely further cases will emerge.

We report this case to add CHIK V to dengue fever and Ross River virus infections as another cause of acute and occasionally more persistent arthritis, in recently returned travellers from Asia.

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References:


