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## 1 VECTOR-BORNE DISEASES

### a Malaria

South Africa is currently experiencing its malaria season, which typically extends from September to May each year. Cases of both local and imported disease can be expected, especially as travellers return from festive season holidays. The malaria-endemic provinces within South Africa are KwaZulu-Natal (north-eastern part), Mpumalanga and Limpopo. Neighbouring countries such as Zimbabwe and Mozambique also have malaria-endemic areas and are an important source of imported malaria into South Africa. Chemoprophylaxis is highly recommended for individuals travelling into malaria-endemic areas. Mefloquine (Lariam<sup>®</sup>, Mefliam<sup>®</sup>), doxycycline, and atovaquone-proguanil (Malarone<sup>®</sup>) are recommended chemoprophylactic agents for Southern Africa.

#### Odyssean malaria cluster in Gauteng Province

On 15 January 2014, two cases of *Plasmodium falciparum* malaria were reported from a private hospital in Gauteng Province. In both cases, there was no history of recent travel to a malaria-endemic area, and no common exposures were found.

A 28-year-old female from Lenasia (City of Johannesburg Metro), who was one month post-partum, presented with lower abdominal pain, high fever, vomiting and severe headache that began on 6 January 2014. The initial diagnosis was pyelonephritis; she was hospitalised and received antibiotics for three days. However, her condition deteriorated, necessitating transfer to the ICU for further management. An astute laboratory technologist noted the presence of malaria parasites on a routine haematology differential smear. *P. falciparum* was confirmed on malaria smear, with 17.9% parasitaemia. Given the severity of illness and presence of numerous complications, intravenous artesunate was sourced for the patient. She has responded very well to treatment.

A 16-year-old male residing in Eldorado Park (<10 km from the first case-patient's residence) experienced the onset of abdominal pain, nausea and fever on 9 January 2014 whilst on holiday in Kimberley. He had travelled with family by car to Kimberley on 4 January 2014 and returned on 11 January 2014. He was hospitalised for investigation.

An astute physician considered the possibility of malaria despite the absence of travel to a known malaria transmission area. *P. falciparum* with 12.2% parasitaemia was confirmed on the malaria smear. He was admitted to ICU and treated with intravenous quinine, and has since recovered and been discharged.

An entomological investigation was conducted at both case-patients' residences and surrounds. All mosquitoes captured were identified as *Culex* species, *Anopheles* species were not found at any of the sites sampled.

These are two examples of unusual malaria cases in a non-endemic area due to importation of infected mosquitoes from endemic areas. The transmission of malaria outside endemic areas is usually unexpected, resulting in delayed diagnosis and treatment, and is therefore often associated with severe illness or a fatal outcome. It is likely that road traffic arriving from endemic areas in and around South Africa is the source of most of the infected mosquitoes responsible for odyssean

malaria cases.

Healthcare workers need to maintain a high index of suspicion for malaria in all patients presenting with fever  $>38^{\circ}\text{C}$ , headache and flu-like illness, or fever  $>38^{\circ}\text{C}$  with impaired consciousness where no obvious cause is evident, and in whom no recent history of travel to a malaria area is forthcoming.

A single negative malaria test does not exclude malaria. If clinical suspicion for malaria is high and the first test negative, repeat tests every 12-24 hours until the patient is better or an alternative diagnosis is confirmed. Low platelets that are otherwise unexplained may indicate the possibility of malaria.

Malaria is a notifiable medical condition and must be reported to local health authorities.

**Source:** Division of Public Health Surveillance and Response, and Centre for Opportunistic, Tropical and Hospital Infections, NICD-NHLS