2 ZOONOTIC AND VECTOR-BORNE DISEASES

a Odyssean malaria in Gauteng Province

On 09 January 2015, the NICD Outbreak Response Unit was notified of a case of an 11-year-old girl from Protea Glen in Soweto (Gauteng Province) with confirmed malaria. The onset of her symptoms was on 05 January 2015 with fever which progressively worsened over several days. On 08 January the patient presented to a GP with high fever, rigors, restlessness, dyspnoea and signs of dehydration. The commendably vigilant GP performed a rapid malaria test which showed positive and the child was referred to a private hospital in Johannesburg where she was treated for malaria. On admission, *Plasmodium falciparum* malaria was confirmed on a thick and thin smear with a parasitaemia of 9%. Laboratory findings included a platelet count of 166 x 10^9/L, haemoglobin and white cell count in the normal range, and moderately elevated creatinine level. By the second day of antimalarial treatment her condition had improved with parasitaemia decreased to 3%. The patient has subsequently recovered uneventfully.

Based on the date of illness onset, it is highly likely that she was infected during the week of 22 to 26 December 2014. The patient and her parents have no history of travel to a malaria risk area, nor were any blood transfusions or injections administered to her in the recent past. An entomological investigation of the patient's residence, including the room she sleeps in, revealed no mosquitoes.
It is most likely that this patient acquired malaria from the bite of an infective *Anopheles* mosquito inadvertently translocated from a malaria-endemic area via a vehicle such as a car, mini-bus taxi or bus – a phenomenon known as odyssean malaria. Odyssean malaria is the acquisition of malaria in a non-endemic area by the bite of an imported mosquito. This phenomenon has been given many names including airport, baggage, container, port, taxi-rank, and minibus-malaria - all of which describe a variety of routes by which a mosquito may be imported to a non-endemic area and transmit malaria. Outbreaks of this nature in non-endemic areas such as Gauteng Province are rare and typically very short-lived because most malaria vector mosquito species only thrive in tropical conditions characterised by consistently high temperatures and humidity.

This case once again demonstrates that healthcare workers need to maintain a high index of suspicion for malaria in all patients presenting with fever >38^{0}C and headache with flu-like illness, or fever >38^{0}C with impaired consciousness, where no obvious cause is evident and in whom no recent history of travel to a malaria risk 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 has improved 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 promptly to local health authorities.

The malaria season in South Africa typically extends from September to May each year. Cases of both local and imported disease can be expected, especially as travellers return from malaria-endemic areas following holiday periods. The malaria-endemic provinces within South Africa include 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.

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