



CONSULTATIVE SIGNAL ASSESSMENT
PRIMARY RISK ASSESSMENT
 EVIDENCE BASED RISK ASSESSMENT
 PUBLIC HEALTH EVENT ASSESSMENT
AUTOCHTHONOUS MALARIA CASE IN VERVIERS

Date of the signal	Date of the PRA	Signal provider	Experts consultation	Method
11/08/2022	15/08/2022	AVIQ	Permanent experts: Karin Cormann (DGOV), Christian Huvelle (AViQ), Romain Mahieu (COCOM), Dirk Wildemeersch (AZG), Tinne Lernout (Sciensano)	E-mail consultation
Date of update	Closing date			
22/09/2022	22/09/2022		Specific experts : Emmanuel Bottieau (ITG), Isra Deblauwe (ITG), Alessandro Pellegrino (AVIQ), Marjan Van Esbroeck (ITG)	

RAG persons of contact:

Javiera Rebolledo (javiera.rebolledogonzalez@sciensano.be)

Valeska Laisnez (valeska.laisnez@sciensano.be)

Tinne Lernout (tinne.lernout@sciensano.be)

rag@sciensano.be

Signal

Confirmed malaria case, autochthonous, from unknown origin.

On the 11th of August 2022, a case of malaria caused by *Plasmodium falciparum* in a person without recent travel history was reported. The case is a 34-year old man who lives in Verviers, and is originally from Guinea Conakry.

The patient developed a high fever on the 5th of August 2022 and was hospitalized at CHR Verviers on the 7th of August 2022, for encephalitis. The diagnosis was confirmed on the 10th of August.

Description

Cause known?

The investigation of the possible source of infection was hampered by the clinical condition of the patient (who was elusive) and his willingness to participate. The person is living in Verviers, and his partner and some of his children live in Welkenraedt (weekly visit).

According to the information that could be collected by AVIQ on the 12th of August, travel related malaria, acquired in endemic zones, could be excluded, as the patient reports:

- no recent travel history (no travel since 6 years);
- no travel of another member of the family to an endemic area and no visitors from abroad;
- no relapsing malaria, since it is *Plasmodium falciparum* spp;
- no blood transfusion or recipient of SoHO.

Odyssean¹ malaria or suitcase malaria, i.e. malaria acquired through an imported exotic mosquitoes (*Anopheles*), seems not a possible explanation for this case. The distance from the closest airport (Liège) to the residence of the patient is about 25 km, and the person is not employed at an airport or container firm (he is currently unemployed).

Introduced malaria, or transmission by local *Anopheles* mosquitoes infected on a (asymptomatic) gametocyte carrier (originating from endemic areas) seems also unlikely. However the person participated to a party with Guinean expatriates 3 weeks ago nearby Liege, but he couldn't give any details on the exact location nor participants. Most of the *Anopheles* species in Belgium are not known as vectors of PF, except *Anopheles plumbeus*. The presence of this *Anopheles* species in Verviers is not known.

At this stage, the case is classified as an autochthonous case of unknown origin.

Unexpected/unusual

Malaria cases without travelling to an endemic country occur sporadically in Belgium. It is rather an unusual event, but an increase in the frequency of these events is being observed in the last years, with cases observed three years in a row, and the second case reported this year.

The cases from the past 3 years were all classified as malaria acquired through imported exotic mosquitoes (suitcase malaria). In 2015, an infection

¹ Malaria acquired in a non-malarious area from the bite of an imported mosquito

	in Antwerp was classified as autochthonous (of unknown origin), after exclusion of the other hypotheses.
Severity	Patients with autochthonous malaria can present complications and die due to the delayed or missed diagnosis of the cause of illness.
Dissemination Low	No risk of further malaria dissemination in Belgium following this case expected.
Risk of (inter)national spread	Although the origin of the infection is unknown at this stage, it is estimated that there is no risk of international spread related to this case.
Preparedness and response	
Preparedness	See previous risk assessments (availability laboratory capacity, surveillance of cases in place, national monitoring of (invasive/exotic) mosquitoes (again) in place since May 2022 but with focus on <i>Aedes</i> mosquitoes).
Specific control measures	No measures taken so far.
Public health impact	
Public health impact in Belgium (Low/Medium/high)	Low. No further autochthonous malaria cases are expected related to this event. However, it again highlights the risk of emerging mosquito-borne diseases in Belgium.
Recommendations (surveillance, control, communication)	<ul style="list-style-type: none"> - No particular vector control measures for the moment. - Since the potential geographical area of infection could not be identified (residence of the patient, residence of his partner or party in Liège), an entomological investigation is not useful/possible. In addition, ITM is understaffed to carry out such investigations, in addition to the surveillance tasks within MEMO+. - It is important to communicate about this case, to raise awareness among physicians.
Actions	<ul style="list-style-type: none"> - Communication to GPs and hospitals in the area/cities around Verviers to raise awareness → AVIQ - Notification of the event to WHO (IHR) is not necessary since this is an isolated case. The event should be notified through EWRS/Epipulse for information → SPF & Sciensano - This event, together with the identification of several <i>Aedes albopictus</i> mosquitoes through the passive surveillance highlights again the importance of having sufficient trained staff for entomological investigations.

Update 22/09/2022

During a follow-up consultation at the hospital, the patient admitted he had been lying to the health inspection because he was afraid of possible sanctions. It seems the person regularly receives parcels from his country of origin, Guinea Conakry. About 2 weeks before presenting with symptoms, he received a parcel containing dried fish wrapped in aluminium and newspaper, brought back from Guinea by an individual traveller.

Similar to the other cases the past years, suitcase malaria, acquired through an imported exotic mosquitoes, seems to be the most possible explanation for this case.