
PRIMARY RISK ASSESSMENT

AUTOCHTHONOUS MALARIA CASE

Date of the signal	Date of the RA	Signal provider	Experts consultation	Method
16/01/2015	19/01/2015	Agentschap Zorg en Gezondheid, Dr K. De Schrijver		
Date of update	Closing date			

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RAPID RISK ASSESSMENT OF POTENTIAL PUBLIC HEALTH EVENT

Signal	<p>On 15/01/2015, a woman living in Antwerpen (75 years old) was diagnosed by microscopic examination of thick drop with malaria <i>Plasmodium falciparum</i>.</p> <p>Symptoms started beginning of December 2014 with fever and flu like symptoms. Fever persisted after symptomatic treatment and 10 days antibiotic treatment with Augmentin®. The patient is hospitalised since 13/01/2015.</p> <p>Hypotheses on source of infection:</p> <ol style="list-style-type: none"> 1. Indigenous malaria or malaria acquired in endemic zones: No recent travel. Last travel in 2009, in Lanzarote. No relapsing malaria as <i>Plasmodium falciparum</i> spp. 2. Induced malaria or non-mosquito transmitted No particular medical history, no blood transfusion. 3. Odyssean malaria or acquired through imported exotic mosquitoes (suitcase malaria) No case among her relatives or friends. No visitors at home in November. She is a weekly visitor of the zoo of Antwerpen (also in November 2014). She was hospitalized in December 2014 for fever. There was no malaria case hospitalized during her stay at the hospital, but a case of malaria was discharged from the hospital two days earlier. 4. Introduced malaria or autochthonous malaria She is retired, living in an apartment in a residential area, has no garden, no pets. No particular hobby's, except visiting the zoo. Living 2 km away from Antwerpen harbour. Origin of the mosquito: entomologic evaluation ongoing by Institute for Tropical Medicine. Two endemic mosquito species are competent for malaria transmission: <i>anopheles atroparvus</i> and <i>plumbeus</i>. 5. False positive: Diagnostic confirmed. 		
Description		Score	Description / arguments
1	Cause known?		<p>About 300 imported malaria cases each year in Belgium.</p> <p>Competent vectors to transmit the parasite could be present as already identified by Modirisk project in 2008 in Belgium.</p> <p>Confirmed malaria case, probably autochthonous, from unknown origin.</p> <p>The route of transmission remains undetermined. None of the hypothesis seems to be plausible.</p>
2	Unexpected/unusual		Autochthonous malaria can occur but this event is unusual as no risk factors have been identified.
3	Severity		No
4	Dissemination (Low/Medium/High)	Low	No risk of malaria dissemination but must be seen at level of already existing exotic mosquitoes identified in Belgium.

5	Risk of (inter)national spread		No
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Preparedness and response			
6	Preparedness		<i>Belgium has the capacity to diagnose malaria. No surveillance system for vectors and no plan to manage potential installation of invasive mosquitoes. CIMES is currently in charge of this problem.</i>
7	Specific control measures (surveillance, control, communication)		The control measures should be included in the plan.
Public health impact			
A	Public health impact in Belgium (Low/Medium/high)	Low	<p>First case of autochthonous malaria described in January 2011. This current event can be nevertheless considered as isolated but must be appreciated at level of emerging vector borne diseases:</p> <p>Extension of invasive mosquitoes like <i>Aedes albopictus</i> in Italy, South France or <i>Aedes japonicus</i> already present in Belgium.</p> <p>Autochthonous cases of exotic diseases like dengue, chikungunya, ... in France, Madeira, Italy, ...</p>
B	Recommendations (surveillance, control, communication)		<p>No particular vector control measures for the moment. To be discussed by regional authorities if mosquitoes identified.</p> <p>This particular event has no political sensitiveness for the moment but the response in case of emergence of vector borne diseases should be prepared.</p>
C	Actions		<p>Agentschap Zorg en Gezondheid – Antwerpen: Further epidemiological field investigation as autochthonous malaria is validated by exclusion of the other hypothesis.</p> <p>ITG : Entomological investigation at least in Zoo and surroundings of patient’s home.</p> <p>SPF-FOD: The notification of the event to WHO (IHR) is not necessary but a EWRS message will be posted in order to inform European authorities and Member States. WHO will have access to it.</p> <p>RAG: RMG must be informed in order to put again the attention of health authorities on the problem of potential emerging diseases and in particular on the necessary surveillance of mosquito’s population in our country. This event underlines the importance of the work currently performed on this topic by the working group of the CIMES.</p>

REFERENCES

ECDC: <http://www.ecdc.europa.eu/en/healthtopics/vectors/mosquitoes/pages/mosquitoes.aspx>
Epidemiological report: <http://www.ecdc.europa.eu/en/publications/Publications/emerging-vector-borne-diseases-annual-epidemiological-report-2014.pdf>

Dengue et Chikungunya in France: <http://www.invs.sante.fr/Dossiers-thematiques/Maladies-infectieuses/Maladies-a-transmission-vectorielle/Chikungunya/Donnees-epidemiologiques/France-metropolitaine/Chikungunya-et-dengue-Donnees-de-la-surveillance-renforcee-en-France-metropolitaine-en-2014>