MALARIA

Case definition

CONFIRMED CASE

Laboratory confirmation of infection with or without clinical evidence of infection:

- demonstration of *Plasmodium sp*. in a blood smear/film (thick and thin)

PROBABLE CASE

Laboratory confirmation of infection with or without clinical evidence of infection:

- detection of *Plasmodium sp*. antigen in an appropriate clinical specimen

Causative agent

Plasmodium vivax, P. malariae, P. falciparum and *P. ovale*, sporozoan parasites.

Source

Humans are the only important reservoir for human malaria.

Incubation

Time between infective bite and appearance of clinical symptoms is about 7-14 days for *P. falciparum,* 8-14 days for *P. vivax* and *P. ovale*, and 7-30 days for *P. malariae.*

Transmission

By the bite of an infective female *Anopheles* mosquito. Most species feed during dusk or during the early evening hours. A few important vectors have biting peaks around midnight or in the early hours of the morning. Malaria may also be transmitted by injection or transfusion of blood from infected persons or by use of contaminated needles or syringes. Congenital transmission is rare.

Communicability

Untreated or insufficiently treated clients may be a source of mosquito infection for more than 3 years in malariae, 1-2 years in vivax, and usually not more than 1 year in falciparum malaria. Stored blood can remain infectious for at least a month.

Symptoms

There are four human malarias that present similar symptoms, making laboratory differentiation necessary.

Falciparum malaria symptoms include fever, chills, sweats, diarrhea, respiratory distress, headache and other non specific symptoms and may progress to splenomegaly, anemia, thrombocytopenia. Acute encephalopathy, severe anemia, icterus, renal failure, hypoglycemia, respiratory distress, lactic acidosis and more rarely, coagulation defects and shock may develop if not treated early. Severe malaria is a possible cause of coma and other central nervous system symptoms in any partially immune or non-immune person recently returned from an endemic tropical area.

Vivax, *malariae* and *ovale* malaria are generally not life-threatening. Illness may begin with malaise and a slowly rising fever of several days in duration followed by a shaking chill and rapidly rising temperature. Headache, nausea and profuse sweating normally accompany these symptoms. After an interval free of fever, the cycle of chills, fever and sweating is repeated either daily or every second or third day. The duration of an untreated primary attack lasts from a week to a month or longer. Relapses may occur at irregular intervals for up to five years.

Persons who are partially immune or who have been taking prophylactic drugs may show an atypical clinical picture.

Diagnostic testing

- Blood (finger prick) for microscopy
- Blood clotted for enzyme immunoassay (not for acute disease)

Treatment

Treatment will depend on geographical area where malaria was acquired.

PUBLIC HEALTH MANAGEMENT & RESPONSE

Case management

Follow up malaria cases to determine:

- where the client was travelling.
- whether the client attended a travel clinic prior to departure.

- whether the client was taking any anti-malaria medication prior to travel.
- whether the client donated or received blood or blood products.

Exclusion

No exclusion is required.

Contact tracing

No contact tracing is required.

Education

Discuss prophylaxis with a travel clinic before travelling to malarious areas.

Discuss with a travel clinic the necessity for stand-by treatment if travelling to a malarious area where medical attention is more than 12 hours away.

Individuals who have had malaria should consult Canadian Blood Services if they wish to donate blood.

Non-immune individuals who will be travelling in malarious areas should use measures to protect themselves from mosquito bites, and may benefit from anti-malarial drugs for chemoprophylaxis. The geographic distribution and specific drug sensitivities of malaria parasites change rapidly, so the most recent information should be sought from a travel clinic prior to prescribing chemoprophylaxis.

Surveillance forms

novascotia.ca/dhw/populationhealth/surveillanceguidelines/Other_Disease_Case_Report_Form.pdf

General Information Sheet

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