

Introduction

- Yellow Fever is an acute viral hemorrhagic disease transmitted by a female mosquito of the Aedes family (*Aedes aegypti*).
- Man and monkeys are the only reservoir for this virus.



Where is Yellow Fever found?

- It is estimated that there are approximately 100 to 150,000 cases of yellow fever each year provoking more than 30 to 50,000 deaths.
- 90% of the cases are observed in Africa.
- Yellow fever does not exist in Asia or in Australia.



Transmission

- The mosquito initially feeds on the blood of a monkey or man, carrier of the yellow fever virus, and then reinoculates the virus in another victim.
- This is the same mosquito that transmits dengue fever, chikungunya and Zika fever.
- Note that the mosquito that transmits yellow fever feeds during daytime, contrary to the malaria-transmitting mosquito which feeds from dusk to dawn.



Symptoms

- The initial symptoms appear 3 to 6 days after the mosquito bite and provoke:
 - high temperature (39-40°C)
 - aches and pains
 - severe headaches
 - fatigue
 - nausea and sometimes vomiting
- These symptoms last for about 3 days before the fever breaks with an apparent improvement in the general condition.



Symptoms

- Some individuals progress into a more toxic phase which attacks:
 - the liver, provoking jaundice, thus the name « yellow fever » of the disease
 - the kidneys, responsible for dark urine
 - the blood provoking acute hemorrhaging resulting in bleeding of the gums and stomach, vomiting of dark blood and black stools.
- More than half of the patients who enter the toxic phase will die within 7 to 10 days.



Diagnosis

- Yellow fever can be confused with many other diseases including:
 - malaria
 - typhoid
 - other hemorrhagic viral fevers (Ebola, Lassa, Marburg, dengue fever)
 - leptospirosis
 - hepatitis
- Diagnosis requires a blood test that detects the yellow fever antibodies.



Treatment

- There is no specific treatment.
- Treatment of yellow fever is based on:
 - emergency hospitalization in intensive care
 - plenty of fluids
 - bed rest
 - transfusions may be required
 - dialysis may be needed.



Prevention

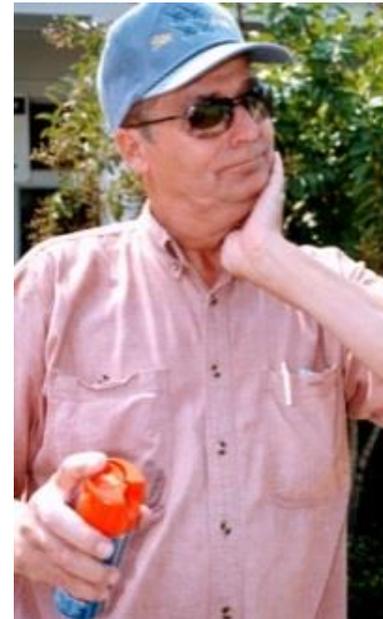
- Mosquito bite prevention and the yellow fever vaccine can prevent the disease.
 - Contrary to malaria, there is no preventive medication which can be taken during travels to an endemic country.
 - However, there is a very effective and safe vaccination against yellow fever that exists since 1936.



Prevention

■ Insect bite prevention against yellow fever and all other insect-borne diseases includes:

- Outdoors
 - wearing long sleeve shirts, long trousers, socks
 - applying insect repellent containing DEET, picaridin or IR3535 on uncovered parts of the body
- Indoors
 - placing screens on doors and windows
 - leaving air conditioning “on”
 - using insecticides
 - sleeping under a chemically treated mosquito net (Deltamethrine® or Permethrine®)



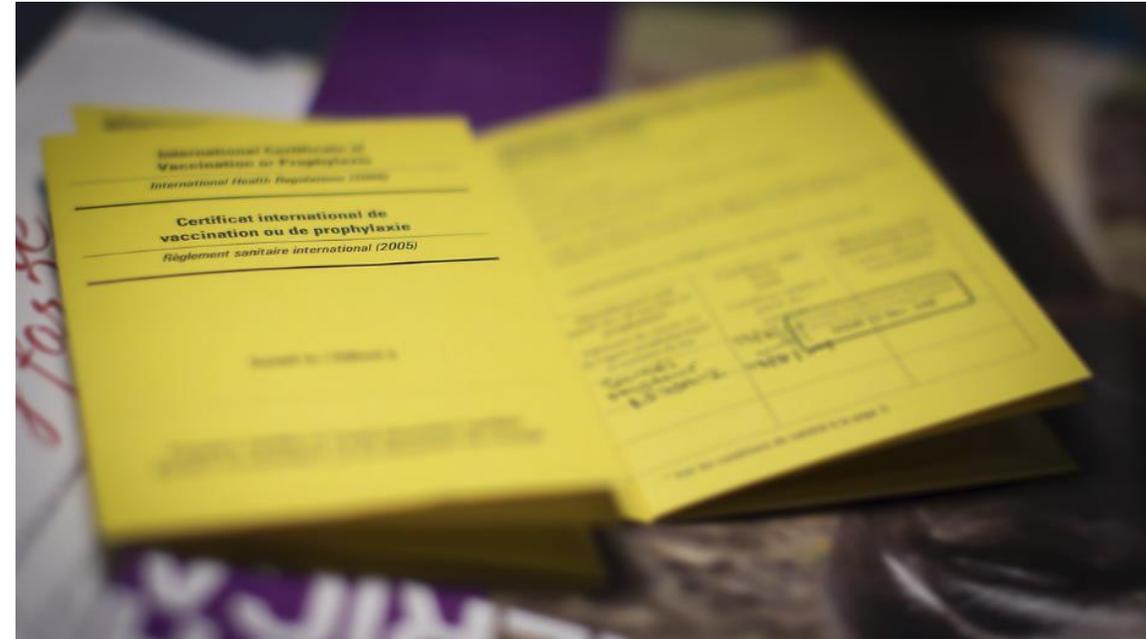
Prevention

- The yellow fever vaccination should be performed at least 10 days before departure.
- It is usually performed in certified medical centers.



Prevention

- A single dose of vaccination is sufficient to confer life-long immunity against yellow fever (WHO).
- The vaccination must appear on the International Certificate of Vaccination (yellow booklet).
- Side effects are minor (headaches, muscle pain, fever) and treatable with paracetamol or aspirin.



Prevention

- The yellow fever vaccination should not be performed in:
 - children under 6 months of age due to a risk of viral encephalitis developing in the child
 - patients allergic to ovalbumin (eggs)
 - immunodeficient syndromes (e.g. HIV/AIDS)
 - recent cortisone or chemotherapy treatments



Prevention

- Pregnant women should:
 - theoretically not be vaccinated due to the risk that the developing fetus may become infected from the vaccine.
 - consult their doctor who will decide whether this vaccination should be performed based on the pregnancy and travel risk.
- If the vaccination cannot be performed, it is safer to cancel a trip to a yellow fever infested region than risk catching the disease.



When coming from a yellow fever infested country

- Many non-endemic countries make it mandatory for people coming from a yellow fever endemic country to be vaccinated against yellow fever in order to reduce the risk of inter-human contamination outside the endemic zone.



Conclusion

- All people traveling to or living in endemic yellow fever countries of Africa or South America should have an up-to-date yellow fever vaccination.
- The vaccination is safe and highly effective, providing lifelong protection.

