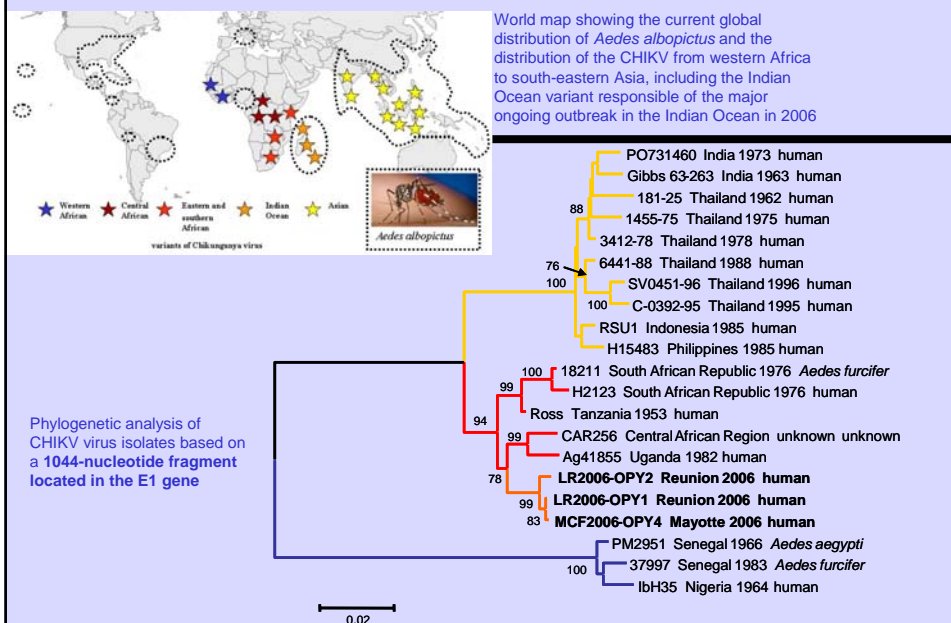


phylogeny of CHIKV Indian ocean strains and distribution of *Aedes albopictus*



Chikungunya virus

First autochthonous case of CHIKV infection

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Case report

Case #1 = Imported case

75 year old woman living in Nîmes, France, stayed in Reunion island from Dec 6th 2005 to Jan 18th 2006

Jan 21st : brutal onset of high fever, asthenia, arthralgia, diarrhea treated by paracetamol, corticoids

Jan 23rd : she sees her general practitioner → CHIK non evoked → standard biological tests

Jan 23rd : blood collected at home by a nurse (case #2), patient had high fever at this time

Jan 27th : second blood collection by a different nurse, patient had no fever at this time → CHIKV serology sent to a private laboratory

Feb 3rd: results from the lab → IgM specific for CHIKV

Interview did not report the presence of mosquitoes in or around the home at this time

Case #2 = autochthonous case

60 year old nurse, no recent travel history

Jan 26th: 3 days after visiting case #1, fever, arthralgia, rash

Jan 27th: sees her GP (same as case #1) → serology for CHIKV

Jan 28th: blood collected → serology performed in the same private laboratory

Feb 1st: results from the lab → absence of IgM specific for CHIKV

March 8th: sees Pr Jourdan in the hospital for persistent arthralgia → prescribes a second serology

March 22nd: results from the NRC → absence of IgM specific for CHIKV but IgG positive

March 23rd: blood collected from cases #1 and #2 → sent the Virology lab in La Timone hospital (Marseille) together with remains of early samples

the four samples were tested for IgG, IgM and CHIKV RNA → results sent to InVS and Pr Jourdan on **March 30th**

First case of CHIKV in a patient living in metropolitan France

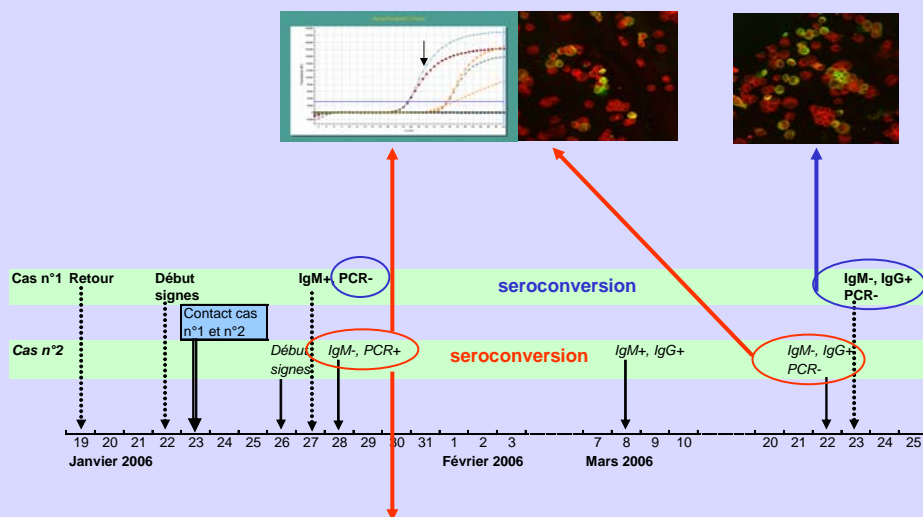


Chart adapted from InVS report, (V Vaillant)

A second region of the genome has been amplified for confirmation
1044 bp in the E1 gene; virus isolation is currently attempted

First case of CHIKV in a patient living in metropolitan France

Case #2 interview: the nurse

no gloves during blood collection
direct contact with blood during hemostasis
no accidental inoculation
no skin lesion, no eczema
handwashing with hydroalcoholic solution before and after blood collection
no report of mosquito bite
no history of travelling

3 hypotheses

1. mosquito-borne transmission from an mosquito imported from Reunion island in case #1 bagages:

- no report of mosquito at home,
- no other cases in case #1 relatives and neighbors,
- cold temperature

2. transmission by an active autochthonous mosquito infected after biting case #1:

- cold temperature, short delay between case #1 and #2 poorly compatible with virus cycle in the mosquito, → would rely on mechanical transmission by the mosquito

3. transmission through direct contact with infected blood : **the most likely hypothesis**

- very high viral loads in CHIKV infection: viral loads are 100,000 times higher than in Hepatitis C
1 μ L of CHIKV viremic serum contains a number of virions equivalent to 100 mL of HCV infected serum
- history of direct contact with the blood of case #1

Conclusion(s)

- Transmission par exposition au sang très vraisemblable du virus chikungunya à une infirmière .
- Pas d'AES mais simple contact cutané avec le sang
- Risque expliqué par l'intensité de la charge virale dans la phase initiale (VHB ?)
- Conséquences sur la transmission communautaire ?