

CLINICAL ASPECTS OF MONKEYPOX IN DRCONGO.

*Monkeypox epidemiology, surveillance, and
laboratory capacity in DRC.*

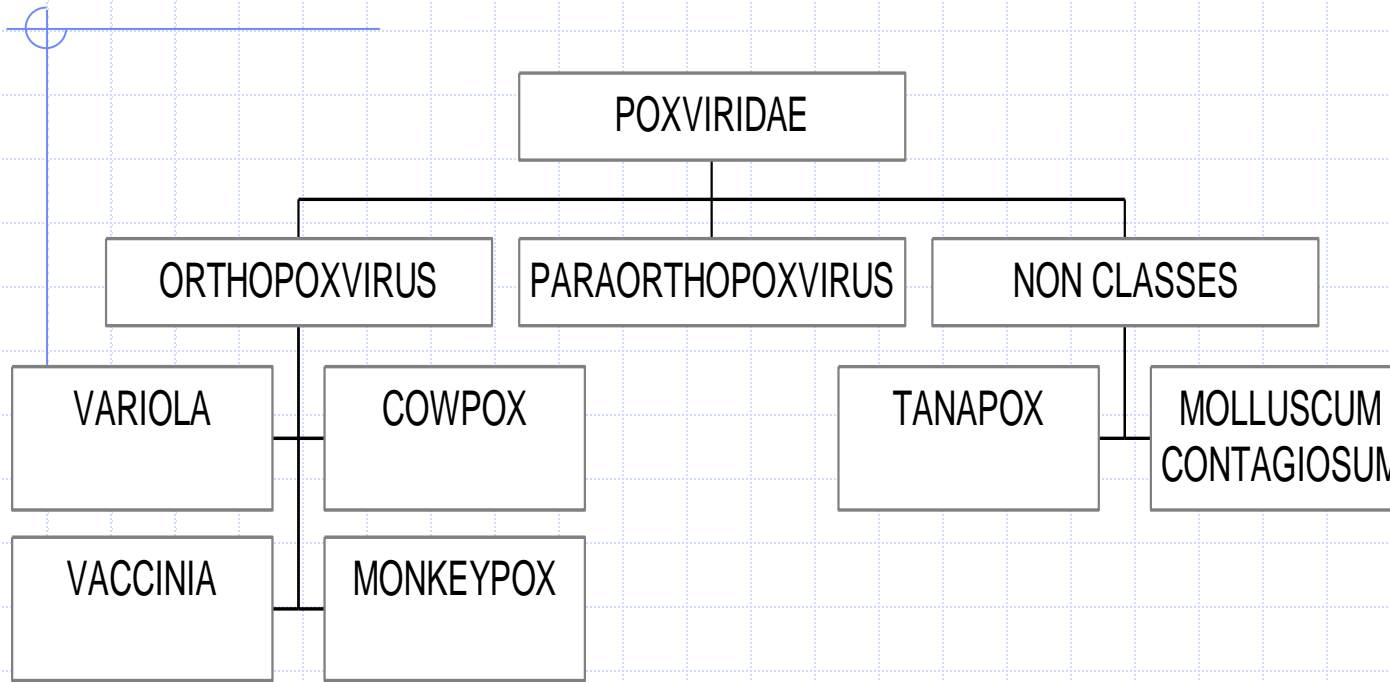
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HUMAN MONKEYPOX (MPX).

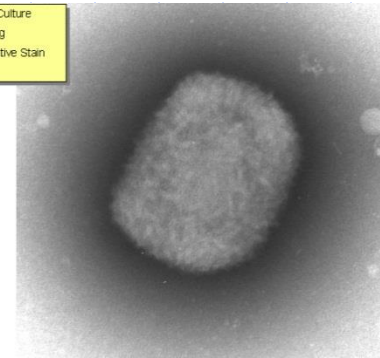
- ❑ Human MPX smallpox-like disease mainly reported in the rainforests of central and western Africa caused by an orthopoxvirus.
- ❑ First case detected in a child from Basankusu village, Equateur province, DRC, in 1970 after smallpox global eradication.
- ❑ Transmission: contact with infected rodent or monkey(72%) or with a patient (28%).
- ❑ Majority of patients: children(86%) and non smallpox vaccinated adults.
- ❑ Since 1981: National Control program for MPX and viral haemorrhagic fever.



DEFINITION AND ETIOLOGY OF MPX

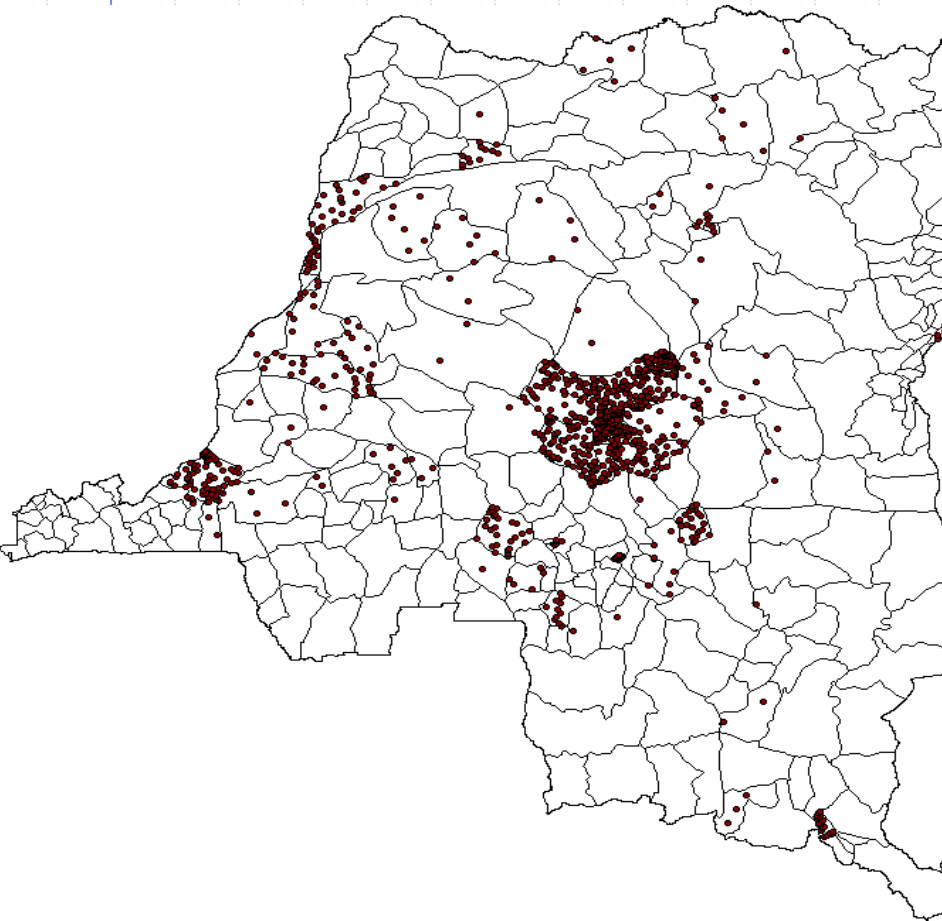
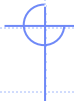


Cell Culture
P Dog
Negative Stain



Human MPX is a tropical zoonotic disease caused by the MPX virus, a member of the genus orthopoxvirus

MONKEYPOX: GEOGRAPHIC DISTRIBUTION IN DRC



- First case detected in 1970 in the village Basankusu (DRC).
- Between 1981 and 1986 intensive surveillance system (WHO/MOH).
- Primary Transmission Animal-Human (spillover)+++
- Human-human transmission++.
- Since then, renewed interests due to the risk of bioterrorism and the increase in the frequency of cases in the Sankuru and Tshwapa provinces.

MPX RISK FACTORS FOR CHILDREN



- Trapping.
- Hunting
- Handling.
- Dead rodents found in the forest are source of food

Squirrels are particularly the source of MPX in young children in rural areas in DRC.



Gambian Rats



MPX RISK FACTOR FOR ADULT

- Preparing game for cooking.
- Monkeys found dead in the forest are source of food

Trapping Hunting



CLINICAL SEVERITY SCORE OF MPX BASED ON NUMBER/LESIONS (WHO)

- Mild illness(<25 skin lesions), no disability.
- (ii) Moderate illness (25-99 lésions), unable to perform most physical activities but does not require nursing cares.
- (iii) Severe illness (100-250 skin lesions), unable to perform most physical activities and requires nursing cares.
- (iv) Grave illness (>250 skin lesions), unable to perform most physical activities and requires intensive nursing cares.
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MONKEYPOX CLINICAL APPEARANCE

Severe infection

Mild infection

Subclinical Infection



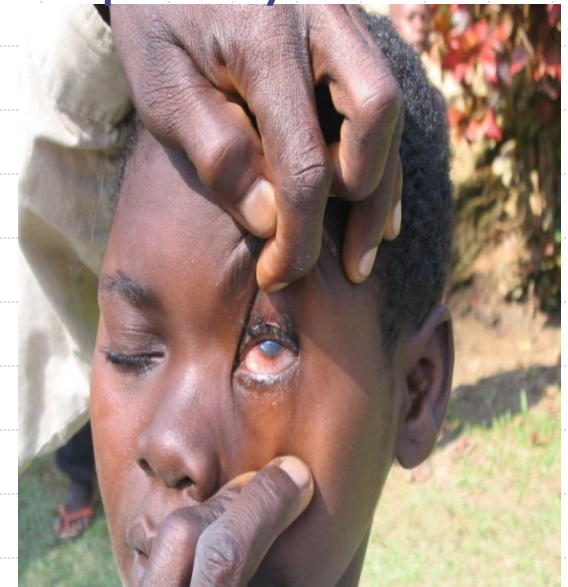
Lymphadenopathy: 90%

CLINICAL COMPLICATIONS OF MPX

Bacterial
conjunctivitis



Corneal
opacity



MUCO-CUTANEOUS COMPLICATIONS OF MPX



MPX in adult



CLINICAL DIFFERENTIAL DIAGNOSIS

•Secondary Syphilis:



Prevalence in Pregnant women in Lodja(03-04)

- HIV: 6,6%
- Syphilis: 7,2%

- MPX
- Palm lesions



- Severe chickenpox
- Residual scars



- Convalescent MPX
- Residual scars



RESEARCH AND LABORATORY METHODS IN DRC.

- ◆ 2007-2011: clinical characterization of human MPX infections in DRC (INRB-USAMRIID).
- ◆ UCLA-INRB-KSPH: epi-surveillance/Sankuru
- ◆ CDC-INRB-KSPH: viro-surveillance/Tswapa
- ◆ CDC-INRB-UNIKIN: ecological study of MPXX.
- ◆ CDC-INRB-KSPH: clinical trial vaccination of firstline HCW.
- ◆ CDC-INRB-WHO: laboratory diagnosis
 - Orthopox PCR and MPX PCR.
 - Gene Expert PCR

CONCLUSION

◆ Given the increase in frequency of MPX in DRC and its emergence outside endemic countries, it is highly recommended to explore the use of existing experimental vaccines.

- SMALLPOX VACCINE **IMVAMUNE**, Bavarian Nordic, Denmark
 - **Highly attenuated vaccinia strain that does not replicate in human cells.**
 - **Safe in immunosuppressed individuals.**
- SMALLPOX VACCINE **LC16M8**, Kaketsuken, Japan,
 - **Attenuated replication -competent vaccinia virus.**
 - **Licensed in Japan(>8000 soldiers vaccinated)**
 - **A potential countermeasure for emergency use against bioterrorism.**
 - **Use in immunosuppressed individuals.**