

Current Status of Ebola Virus: A Mini-Review

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SHORT COMMUNICATION

With a mortality rate which varies between 30 and 90%, the Ebola virus has serious consequences (Rid & Emanuel, 2014). The latest estimates from the Centers for Disease Control and Prevention (Centers for Disease Control, 2015) counts 27,055 infected persons and 11,142 deaths, for the West Africa region alone.

Despite its inconvenient impact on the human level, the West African epidemic is a unique opportunity to better understand the Ebola virus disease. Its magnitude makes it possible to hope to collect important information's associated with substantial funds that will be allocated to research. In fact, considerable progress has been made in an extremely short period of time. Several vaccines validated in animals entered the clinical trial phase; a first vaccine trial has even already demonstrated the probable prophylactic efficacy of one of them (Henao-Restrepo et al, 2015; Klenk & Becker, 2015). Another significant example: in an unprecedented collective effort, 924 complete genomes of Ebola virus have been sequenced since 2013 - against 35 genomes before this date - which allowed a very precise description of molecular evolution and dissemination of this pathogen in the first year of the epidemic (Carroll et al, 2013; Carroll et al, 2015). These are of course only two very specific areas Ebola virus disease research and sure other research projects will soon bring some interesting discoveries.

An exception to this sudden acceleration of our knowledge of Ebola virus disease is the question of its zoonotic origin. Given the very high fatality rate associated with infection, there is no doubt that the Ebola virus does not circulate endemically in human populations. In fact, it seems quite clear that all human epidemic chains, including the West African epidemic, originate from occasional zoonotic transmission events (Baize et al, 2014; Mari Saez et al, 2015). The source (s) of these transmissions remains mysterious. The proximity to a very rich wildlife and the consumption of bush meat being common throughout sub-Saharan Africa, the identification of the animal reservoir (or possibly animal reservoirs) of the Ebola virus is an essential prerequisite for the implementation of effective surveillance and prophylaxis. It should be noted that the main natural host of this pathogen suggested is African fruit bat which transmits the virus to humans through close contact with the tissues or body fluids of an infected animal (World Health Organization (WHO), 2014).

REFERENCES

- Baize S, Pannetier D, Oestereich L, Rieger T, Koivogui L, Magassouba N *et al*. Emergence of Zaire Ebola virus disease in Guinea. *N Engl J Med*. 2014; 371: 1418-25.
- Carroll MW, Matthews DA, Hiscox JA, Elmore MJ, Pollakis G, Rambaut A *et al*. Temporal and spatial analysis of the 2014- 2015 Ebola virus outbreak in West Africa. *Nature* 2015; 524: 97-101.
- Carroll SA, Towner JS, Sealy TK, McMullan LK, Khristova ML, Burt FJ *et al*. Molecular evolution of viruses of the family Filoviridae based on 97 whole-genome sequences. *J Virol*. 2013; 87: 2608-16.
- Centers for Disease Control and Prevention (CDC). (2015). *2014 Ebola Outbreak in West Africa – Case Counts*. Page consultée le 27 mai 2015 au [http://www.cdc.gov/vhf/ ebola/outbreaks/2014-west-africa/case-counts.html](http://www.cdc.gov/vhf/ebola/outbreaks/2014-west-africa/case-counts.html)

- Henaó-Restrepo AM, Longini IM, Egger M, Dean NE, Edmunds WJ, Camacho A *et al.* Efficacy and effectiveness of an rVSV-vectored vaccine expressing Ebola surface glycoprotein: interim results from the Guinea ring vaccination cluster-randomised trial. *Lancet* 2015; 386 :857-66.
- Klenk HD, Becker S. VACCINES. Ebola virus vaccines--preparing for the unexpected. *Science* 2015; 349:693-4.
- Mari Saez A, Weiss S, Nowak K, Lapeyre V, Zimmermann F, Dux A *et al.* Investigating the zoonotic origin of the West African Ebola epidemic. *EMBO Mol Med.* 2015; 7: 17-23.
- Organisation mondiale de la santé (OMS). (2014). *Maladie à virus Ebola – Aide-mémoire N103*. Page consultée le 30 janvier 2015 au <http://www.who.int/mediacentre/factsheets/fs103/fr/>
- Rid, A. et Emanuel, E.J. (21 aout 2014). Ethical considerations of experimental interventions in the Ebola outbreak. *The Lancet*, publié en ligne au [http://dx.doi.org/10.1016/s01406736\(14\)61315-5](http://dx.doi.org/10.1016/s01406736(14)61315-5)

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