"Translating discovery to a clinical trial: interferon treatment for Ebola virus disease"

The recent outbreak of Ebola virus disease in West Africa captured international attention, largely because of the magnitude of the outbreak and the high fatality rates. In studies using transcription competent virus-like particles and infectious eGFP-Ebola virus, we demonstrated that IFN-α/β limit Ebola virus infection in vitro, and showed that IFN-β exhibits superior antiviral potency compared with IFN-α. These findings provided the basis for a single arm clinical study to evaluate the safety and efficacy of IFN-β treatment for Ebola virus disease. The study was undertaken in Coyah, Guinea. IFN-β treatment facilitated viral clearance from the blood and led to a faster resolution of symptoms associated with disease. Survival, calculated from the date of consent for those in the trial and date of admission from those in the control cohort, to the date of death, was 19% for those receiving supportive care only, compared to 67% for those receiving supportive care plus IFN-β.

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