Review of: "A Harmless Avian Vaccine Virus Could Be Developed into an Off-the-Shelf “Antibiotic” for Viruses"

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The idea of using safe live viruses as a non-specific therapeutic agent has a long history. The live polio vaccine has been used as an antitumor agent, sometimes with impressive success. In the peer-reviewed paper, this approach is further developed - an attenuated strain of the infectious bursal disease virus (IBDV) is proposed as a competitor to viruses that cause acute or chronic diseases. The immunostimulatory power of IBDV was demonstrated when a severe herpes zoster ophthalmicus infection was healed within a few days. The therapeutic effect is achieved by activating the native antiviral interferon (IFN) gene defense system via Toll-like receptors (TLRs). IBDV strongly induces IFN-β and IFN-λ, while IFN-γ is not induced. As a therapeutic agent, the authors propose strain R903/78, obtained by reverse engineering from attenuated IBDV. In this way, a triple level of safety is achieved: first, IBDV is widespread and pathogenic for poultry, but has never been found to infect mammals. Second, an attenuated vaccine strain was used, and third, the R903/78 was recreated by reverse genetics technology as an artificial virus. In this way, maximum antiviral efficacy is achieved with only minimal side effects. The authors propose the use of R903/78 against hepatitis A, B, and C viruses, the herpes zoster virus, and (SARS-CoV-2).