The bright and dark sides of interferon responses in respiratory viral infections

Interferons (IFNs) were discovered and named for their ability to induce an antiviral state in infected cells, but they also have immunomodulating, anti-proliferative and pro-apoptotic functions. The combined effect of all these IFN-driven processes determines whether IFNs improve or aggravate the course of disease in viral infection. I will present the multifaceted roles of IFNs and discuss the parameters that tip the balance between protective and deleterious effects. Consequences for prophylactic and therapeutic IFN treatment options, as well as more surgical interventions than adding or blocking IFNs, will be highlighted.