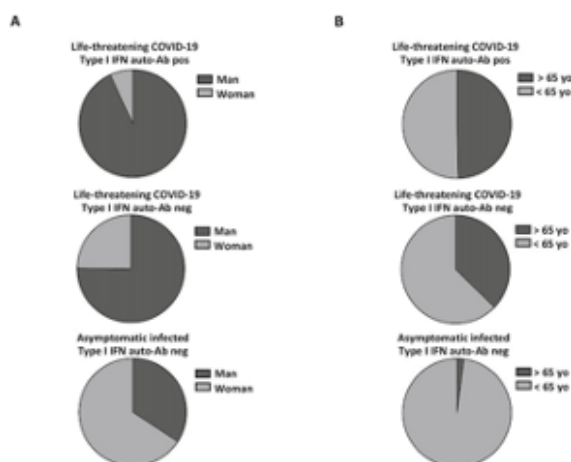
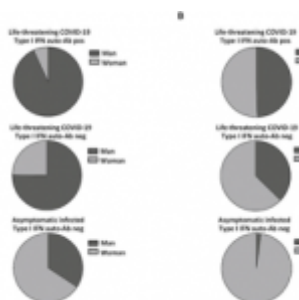


Auto-antibody responses to type I IFNs is a clue to severe COVID-19



Demographic and ethnic information about the patients and controls. (A) Gender distribution in patients with life-threatening COVID-19 and auto-Abs to type I IFNs, patients with life-threatening COVID-19 and without auto-Abs to type I IFNs and individuals with asymptomatic or mild SARS-CoV-2. (B) Age distribution in patients with life-

threatening COVID-19 and auto-Abs to type I IFNs, patients with life-threatening COVID-19 and without auto-Abs to type I IFNs and individuals with asymptomatic or mild SARS-CoV-2. (C) Principal component analysis (PCA) on 49 patients with life-threatening COVID-19 and auto-Abs against type I IFNs. (Source: Bastard et al., 2020)

A recent paper in Science reported that about 10% of patients who develop severe COVID-19 pneumonia have neutralizing auto-Abs against type I IFNs and were found in people aged 25 to 87. Most notable was that 95/101 (94%) patients with life-threatening COVID-19 pneumonia, and who possessed these auto-Abs, were men. Not only does this highlight the importance of an IFN response in protecting against severe COVID-19, but also explains why men suffer disproportionately from severe COVID-19. The presence of these neutralizing auto-Abs against type I IFNs “tip the balance” towards disease, caused by a likely harmful innate and adaptive over-response to infection. These auto-Abs are thought to be clinically silent until there is SARS-CoV-2 infection, after which they can neutralize the ability of “the corresponding type I IFNs to block SARS-CoV-2 infection in vitro.” The authors suggest that screening for these auto-Abs in patients infected with SARS-CoV-2 would identify those who are at risk for developing life-threatening pneumonia.

Journal Article: Bastard et al., 2020. [Auto-antibodies against type I IFNs in patients with life-threatening COVID-19](#). Science

Summary by Clive Gray