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## Risk of infections in psoriasis. A lesson to learn during the SARS-CoV-2 pandemic

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**Linked Article:** Yiu et al. *Br J Dermatol* 2021; **184**:78–86.

In this issue of the *BJD*, Yiu et al. present risk estimates of severe infections in patients with psoriasis from the UK, based on record linkage analyses of administrative and clinical databases, during the period April 2003 to December 2016.<sup>1</sup> People with psoriasis had a 36% increased risk of being hospitalized and a 33% increased risk of death due to infection compared with matched controls. While the risk of infection increased with active psoriasis, no further increase in risk was documented for severe psoriasis, identified by the prescription of systemic therapies. Notably, risk estimates were adjusted for important confounding factors and comorbid conditions, supporting the notion that psoriasis per se may be linked with the increased risk.

The relationship between psoriasis and infection is a bidirectional one.<sup>2</sup> On one side, specific infections may trigger psoriasis, and on the other side, as documented by this study, psoriasis may be associated with more serious infections. How psoriasis may be linked with such an increased risk remains to be determined. The degree of damage induced by an infectious agent is the end result of the interaction between the agent's capacity to interfere with the homeostatic mechanisms of the host, and the host response to the infectious agent. Cytokines such as tumour necrosis factor- $\alpha$ , interleukin-6 and interleukin-17 show both protective functions and induction of inflammatory responses that might have destructive effects.<sup>3</sup> Hence, it is not surprising that a disease characterized by dysregulation of cytokine production, such as psoriasis, may associate with more serious infections.

The results of the study of Yiu et al. are especially relevant in these times of the SARS-CoV-2 pandemic. There are two reasons to consider. The first is the confirmation of the efficiency of record linkage analyses of routinely collected data, to assess specific outcomes in selected subpopulations. During the pandemic, these analyses may quickly produce signals of a possible increased susceptibility of certain disease categories, and may help to inform management strategies in a timely fashion. Compared with registries, record linkage analyses can be faster in providing answers to specific questions and do not need the implementation of ad hoc data collection, which may be time and resource consuming. The second reason is the suggestion

that attention should be paid not only to more susceptible disease subgroups but also to their treatment when facing the pandemic. It is usually taken for granted that patients on systemic immunosuppressive or immunomodulating therapies are at an increased risk of more severe infections or death.

The paper by Yiu et al. seems to suggest a different perspective by showing a lack of further increase in the risk of severe infections in systemically treated patients. A so-called 'cytokine storm syndrome' may increase the risk of mortality in COVID-19.<sup>4</sup> It cannot be ruled out that pharmacologically immunosuppressed patients may experience a lower degree of such a complication.<sup>5,6</sup> Once again, record linkage analyses may help to provide preliminary evidence on such a hypothesis.

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## Reliable assessment of atopic dermatitis severity: do we need more tools?

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Facing the need to obtain more robust and reliable results from studies on various therapeutic modalities and the growing costs of clinical trials, a valid assessment of disease severities has now become particularly relevant. Regarding atopic dermatitis (AD), many available measures exist for its assessment; however, none