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¹Department of Dermatology, Chelsea and Westminster Hospital, London SW10 9NH, U.K.

²International Foundation for Dermatology, 4 Fitzroy Square, London W1T 5HQ, U.K.
E-mail: claire.fuller@ifd.org

L.C. FULLER^{1,2}

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The association between psoriasis and asthma

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Psoriasis is no longer considered to be just a skin disease. During the last decade it has become evident that patients with psoriasis share important systemic manifestations with other chronic inflammatory diseases, such as Crohn disease and metabolic syndrome.¹ In addition, new knowledge has led to a deeper understanding of the complex immune dysregulation in patients with psoriasis from a T-helper (Th)-1-dominant disease to a Th1–Th17/Th22-skewed disease.² As a consequence, there has been a change in the treatment paradigm for psoriasis; selective biologics against dysregulated cytokines and receptors have emerged as effective treatments for psoriasis.³

Asthma is a heterogeneous inflammatory disorder of the airways characterized by chronic inflammation. As for psoriasis, a large number of biological therapies have been tested in the treatment of asthma.⁴ Some of these are promising targeted therapies, but only omalizumab has emerged as a licensed biological therapy for the treatment of asthma. Because

omalizumab targets immunoglobulin E, it is predominantly used for allergic asthma. Asthma is classically considered a Th2-driven disease. However, even though allergic asthma is the result of an inflammatory process driven by allergen-specific Th2 lymphocytes, other cytokines have also been shown to be important in the pathogenesis of asthma. Recent studies show that Th17 cells are of importance in some forms of asthma, where neutrophils more than eosinophils contribute to the inflammation.⁵

In this issue, Lønnberg et al.⁶ present data from the Danish Twin Registry showing an increased prevalence of asthma in individuals with psoriasis. They thereby confirm the results from a large Taiwanese case–control study that found asthma to be more prevalent among individuals with psoriasis.⁷ In addition, Lønnberg et al.⁶ show that the increased occurrence of asthma in patients with psoriasis was primarily related to nonatopic asthma.

The association between psoriasis and asthma is considerably weaker than the association between atopic dermatitis and asthma,⁸ in the clinical setting a dermatologist will have relatively few asthmatics among patients with psoriasis. Thus, even though it is important for clinicians to be aware of this association, the current findings do not require dermatologists to look for asthma among patients with psoriasis.

However, the finding that psoriasis is associated with asthma is important as it could indicate shared genetic, environmental or pathophysiological mechanisms. Th17 cells play a role in both diseases and hopefully future research can further elucidate the underlying pathophysiology of asthma and psoriasis. In the long run this could lead to new specific treatments for both diseases.

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¹Institute of Environmental Medicine, N. BALLARDINI^{1,2}
Karolinska Institutet, Stockholm, Sweden
²Sachs' Children and Youth Hospital, South
General Hospital, Stockholm, Sweden
E-mail: natalia.ballardini@ki.se

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