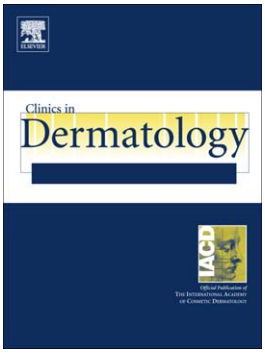

Skin and the Metabolic Syndrome

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Commentary

Skin and the Metabolic Syndrome

The metabolic syndrome (MetS), also termed syndrome X, the deadly quartet, and insulin resistance syndrome, has been of interest for many years; however, there has been a striking increase in the prevalence of MetS during the past few decades, coinciding with the global epidemic of obesity and diabetes mellitus.[1,2] MetS is a constellation of several clinical and laboratory findings that have been shown to be associated with numerous medical and dermatologic conditions e.g. psoriasis, hidradenitis suppurativa (HS), and acne vulgaris; moreover, the measured severity of psoriasis is significantly associated with MetS by increased psoriasis area and severity index (PASI) scores[3]; whereas, HS can be significantly linked with MetS even in mild disease[4]. While MetS is well recognized among dermatologists for its association with several cutaneous disorders, it is not always probed in the clinic, perhaps due to time constraints.

Mechanisms

The exact mechanism of MetS and its pathophysiologic assocation with different cutaneous conditions is not entirely clear. Psoriasis and MetS appear to have related genetic properties, pathophysiologic pathways, and similar metabolic risk factors, while in atopic dermatitis the association is less robust, along with variation across different ethnicities and higher associations that have been reported in Asia and USA.[5] In addition, Fanning et al highlight that some patients have a genetic predisposition to developing MetS, in addition to having the underlying genetic mutations of the disorder itself.[6]

While acanthosis nigricans (AN) has a strong association with MetS, it remains unclear if this is a secondary phenomenon to MetS or due to associated genetic mutations e.g insulin growth factor (IGF-1) or epidermal growth factor receptor. (EGFR)[7] Acne vulgaris, an extremely common condition, has associations with MetS likely through aberrancy in the mTORCH-1 signalling pathway, overgrowth of *P. acnes* and release of free fatty acids.[8]