Titel des Beitrags: [Uncommon acne-associated syndromes and their significance in understanding the pathogenesis of acne].

Abstract:
Acne is an intriguing model for the study of interactions between hormones, innate immunity, inflammation and wound healing (scarring). The manifestations and involvement of acne in different systemic diseases and some rare syndromes demonstrate its multifaceted nature. Synovitis-Acne-Pustulosis-Hyperostosis-Osteitis (SAPHO) and Pyogenic Arthritis-Pyoderma gangrenosum-Acne (PAPA) syndromes, both regarded as autoinflammatory diseases, highlight the attributes of inflammation in acne. While SAPHO syndrome can be used to explore the pathogenic role of Propionibacterium acnes in acne, PAPA syndrome and Apert syndrome can help understand the genetic influence on acne. The genetic defects in the gain-of-function of FGFR2 mutations in Apert syndrome and acne nevus of Munro lend further support to the hypothesis that the interaction of forkhead box class O (FoxOs)-mediated transcriptional regulation with androgen receptor transactivation and insulin/insulin like growth factor-1 (IGF-1)-signaling is crucial in acne pathogenesis. Novel biologics, such as tumor necrosis factor (TNF) blockers and IL-1 inhibitors, appear promising in opposing the inflammation associated with SAPHO and PAPA syndromes, but it remains to be seen if they can also improve severe acne particularly in the long term.