Interleukin 23 expression in pyoderma gangrenosum and targeted therapy with ustekinumab

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BACKGROUND
Interleukin (IL)-23 is involved in the pathogenesis of the chronic inflammatory Crohn disease. Pyoderma gangrenosum (PG) is often associated with and can even be the first manifestation of this disease and has abundant neutrophilic infiltration. Because IL-23 plays a critical role in driving inflammation associated with IL-17 production and especially neutrophil recruitment, we suspect that PG might be driven by a pathogenetic mechanism similar to that of inflammatory bowel diseases or psoriasis.

OBSERVATIONS
Tissue sample analysis showed highly elevated expression of IL-23 on both transcriptional and protein level in a recalcitrant PG lesion. On the basis on these data, a treatment targeting the p40 subunit of the heterodimeric IL-23 with the monoclonal antibody ustekinumab was started. Therapy with ustekinumab resulted in a significant decrease of IL-23 expression in PG and healing after 14 weeks of treatment. No relapse occurred in a 6-month follow-up period.

CONCLUSIONS
Our data provide evidence of an IL-23-dominated inflammatory infiltrate in PG. This might specify a new concept for PG pathophysiology and suggests a possibility for using ustekinumab as a therapeutic agent in this disease.

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