New Treatment Approach for Pityriasis Rubra Pilaris

Pityriasis Rubra Pilaris patients have been treated successfully with an IL-1 receptor antagonist. Underlying is the observation that interleukin-1 plays a so far unknown role in this rare disease.

Keywords
- Pityriasis Rubra Pilaris (PRP), interleukin-1

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Reference
- in preparation

Background
- PRP is a rare inflammatory skin disease phenotypically presenting features within the spectrum of psoriasis and atopic eczema. The pathogenesis is not fully understood. An activation of the interleukin (IL)-23 T-helper (Th) 17 axis has been observed, but there is a large patient-per-patient variability. A number of treatment modalities has been tested, including for example dosing of retinoids, metodextrate, or TNF-a blockers. Overall, however, no unitary, consistently effective therapy for PRP exists. Efficacy ranges of currently known therapies are as low as 40 – 60%.

Invention
- The invention proposes the use of biomolecules that target the interleukin-1 / interleukin-1 receptor interaction for the treatment of PRP. The invention is expected to achieve a fast resolution of PRP over 6-12 weeks directly after onset of symptoms (50% improvement in 2 weeks). As interleukin-1 provides an upstream interference in the disease pathogenesis, esp. keratinocytes, which could be the driving cause by producing CCL20, a more consistent therapeutic effect is expected from blocking IL-1 compared to modulators of the further downstream adaptive immune system such as IL-17 or IL-23. Currently available proof-of-concept data obtained with an interleukin-1 receptor antagonist include in vitro experiments and data from at least two patients. The involvement of IL-1a and IL-1b is shown on a cohort of currently at least 13 patients. The approach is directed to first-line treatment as well as the treatment of patients under previous alternative therapy, e.g. with a TNF-a blocker.

Fields of Use
- Treatment of PRP, particularly refractory PRP

Patent Status
- Patent application filed (EP 21/191522)

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