Emerging Vitiligo Treatments
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Research in vitiligo has made significant progress in the past 5-10 years, and an improved understanding of its pathogenesis is leading to encouraging new treatments. The most promising strategies at this time focus on targeted immunotherapy and promoting melanocyte regeneration, although normalizing melanocyte stress is also an active area of research. Many of these strategies have been informed by in vitro studies and animal models, but are also supported by proof-of-concept studies in a small number of vitiligo patients.

Treatment targets in vitiligo – keys to success

- Melanocyte stress – antioxidants, but little convincing data
- Autoimmunity – blocking cytokines and cytokine signaling
- Melanocyte regeneration, growth, and migration – α-MSH homologs

Targeted Immunotherapy – focus on the IFN-γ-chemokine signaling pathway

- Cytokine and cytokine receptor antibodies, small molecule inhibitors
  - IFN-γ
  - CXCL10
  - CXCR3
- Cytokine signaling blockade – i.e. Janus Kinase (JAK) inhibitors
  - Tofacitinib (pan-JAK inhibitor) oral
  - Ruxolitinib (JAK 1/2 inhibitor)
    - Oral
    - Topical

Promoting melanocyte regeneration – necessary for repigmentation of established lesions

- Afamelanotide – αMSH analog

Combining emerging with existing therapies

References:


