PIGMENTATION

VITILIGO IS FAILURE TO MAINTAIN MELANOCYTIC HOMEOSTASIS IN THE SKIN

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Introduction: The process of induction of pigment and melanin in the skin require the development and maintenance of a specialized cell called the melanocyte in the epidermis. Several factors are required to produce a functioning melanocyte from their precursors within the skin including; cytoplasmic signal transduction, nuclear transcription factors, gene induction and production of specialized proteins and enzymes.

Objectives: To monitor several factors of melanocytic induction in vitiligo.

Methods: We examined 32 vitiligo and normal skin samples using immune-staining procedures with antibodies for different levels of melanocytic induction. The fully formed and functioning melanocytes were examined using S100 and Mart-1 antibodies. Sox10 and MITF were used to examine for transcription factors required during development of melanocytes. C-kit was used to demonstrate an important marker in tyrosine induction pathway. BCL2 and CD34 were used to show primitive stem cells as possible melanocytic precursors.

Results: The study demonstrated severe and statistically significant decline of all examined antibodies in vitiligo, when compared to normal skin ($P<0.0001$), except for S100.

Conclusion: The results prove that vitiligo pathogenesis is not merely destruction of fully functioning melanocytes but all steps of their induction are affected too. Not only the fully formed melanocytes disappeared, but also all levels and elements of their homeostasis including melanocytic precursors were abolished.