

Immunohistochemical expression of melatonin in non-segmental vitiligo and its role in the pathogenesis: a case control study.

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Background: Vitiligo is the most common skin depigmentation disorder. Melatonin is a hormone affects melanogenesis and pigmentation. The possible role of melatonin in the pathogenesis of vitiligo remains unclear.

Objective: Immunohistochemical expression of melatonin in lesional and nonlesional skin of patients with nonsegmental vitiligo in comparison to healthy controls in order to detect the possible variable expression of melatonin and its possible role in the pathogenesis of vitiligo.

Patients and Methods: In all, 40 lesional and 40 nonlesional skin biopsies from 40 patients with nonsegmental vitiligo and 40 healthy control biopsies were included. Immunohistochemistry of melatonin expression in skin biopsies was performed. Vitiligo area scoring index score was used to assess vitiligo severity.

Results: Melatonin expression was significantly lower in lesional and nonlesional skin of vitiligo patients ($P < 0.001$) with almost the same level in significant concordance (κ , $P = 0.7$, 0.005), as compared with controls. This lower melatonin expression was evident with as the age progresses ($P < 0.001$) and not related to vitiligo area scoring index scores and family history ($P > 0.05$) of vitiligo.

Conclusion: Our results showed a significant lower melatonin expression in the lesional and non-lesional skin of vitiligo patients than controls. Melatonin deficiency in vitiligo skin lesions was almost equal in vitiligo-free areas, suggesting a significant role for melatonin hormone deficiency in the pathogenesis of vitiligo.

Key words: Immunohistochemistry - melatonin – pathogenesis – vitiligo.