Evaluation of the role of keratinocytes apoptosis and impaired cell to cell adhesion in vitiligo: Immunohistochemical expression of MART1, P53 and E-cadherin

Thesis

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ABSTRACT

Background: Vitiligo is an acquired, hypomelanotic skin disorder characterized by circumscribed depigmented macules. Most studies on vitiligo have concentrated on the abnormality of melanocytes rather than the abnormality of keratinocytes. Some studies supported the hypothesis that keratinocytes apoptosis and impaired intercellular adhesion may play a role in the pathogenesis of vitiligo.

Objectives: To assess the role of keratinocytes apoptosis and impaired intercellular adhesion in the pathogenesis of vitiligo through the studying of immunohistochemical presence and distribution of MART1, P53 and E-cadherin in the epidermis

Patients and Methods: Thirty five patients having non segmental vitiligo were recruited from the outpatient clinic (All active therapies were stopped at least 3 weeks priorto inclusion in the study) as well as twenty (age and sex matched) volunteers (vitiligo free) were included in the study as control group. All patients were subjected to complete history taking with special emphasis on the duration of the disease. Patients underwent skin biopsies (lesional, perilesional and non lesional) and 1 skin biopsy was taken from every control volunteer.H& E staining was performed for histopathological examination& Immunohistochmical staining with MART1 was done for lesional biopsies to confirm the clinical diagnosis. E-cadherin and P53 immunostaining were done for all biopsiesand statistical analysis was done to compare the results in patients and controls

Results: Regarding to immunostaining of both E-cadherin & P53, there was a highly significant differencebetween lesional biopsies of cases and control groups. Also there was a highly significant differencebetween lesional biopsies of cases and perilesional and non lesional biopsies of the same cases. No significant difference was noted regarding the disease stability.

Conclusion:vitiligo is not a disease confined to melanocytes. Keratinocytes apoptosis and impaired cell to cell adhesion may play prominent role in the pathogenesis of the disease.

Key words: Vitiligo, Apoptosis, Cell adhesion, P53, E-cadherin