

EFFECT OF ISOTRETINOIN TREATMENT ON P53 EXPRESSION IN THE PILOSEBACEOUS GLANDS IN PATIENTS WITH ACNE VULGARIS

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INTRODUCTION

Acne is one of the most common skin disorders treated by dermatologists and other health care providers. It is a chronic inflammatory skin condition.

Several drugs are used in the treatment of acne vulgaris, Isotretinoin (13-cis-retinoic acid) is the most effective drug used in the treatment of moderate to severe acne vulgaris.

Treatment with isotretinoin results in sebaceous glands shrinkage and reduced sebum production.

Many authors had suggested that the main role of systemic isotretinoin is sebocyte apoptosis in different ways. This apoptosis was hypothesized to be due to increased p53 expression.

AIM OF THE WORK

The aim of this work was to detect the effect of oral isotretinoin on the expression of p53 in tissues by immunohistochemistry, ELISA and PCR through taking skin biopsies before and after isotretinoin treatment in patients with acne vulgaris.

SUBJECTS AND METHODS

Subject:

This study was conducted on: Twenty five patients suffering from acne vulgaris. And fifteen acne-free subjects were representing controls.

The Exclusion criteria: History of intake of systemic retinoids in the last six months, Patients on antibiotic therapy in the last six months, Smoking., Female patients on anti-androgen therapy in the last six months.

METHODS

All patients were subjected to the following procedures:

All patients in the present study had signed a written informed consent before enrollment in the study. Skin biopsies were taken from all patients before and after treatment with oral isotretinoin in a dose of 0.6 mg/kg/day for 6 weeks for detection of the expression of p53 in tissues by immunohistochemistry, ELISA and PCR.

Skin biopsies were also taken from controls.

RESULTS

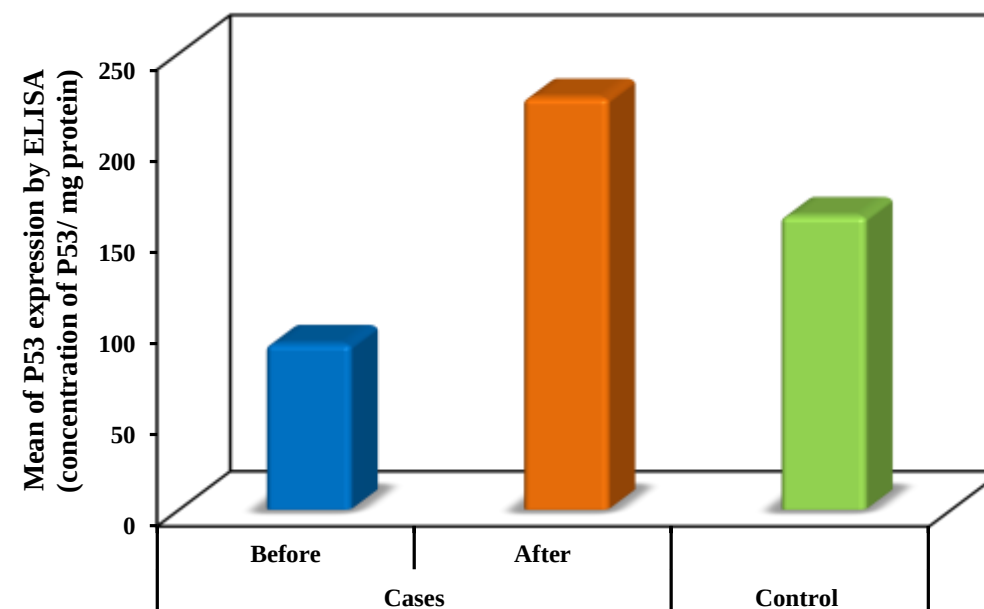


Figure 1 : Comparison between the two studied groups according to P53 protein concentration by ELISA (concentration of P53/ mg protein)

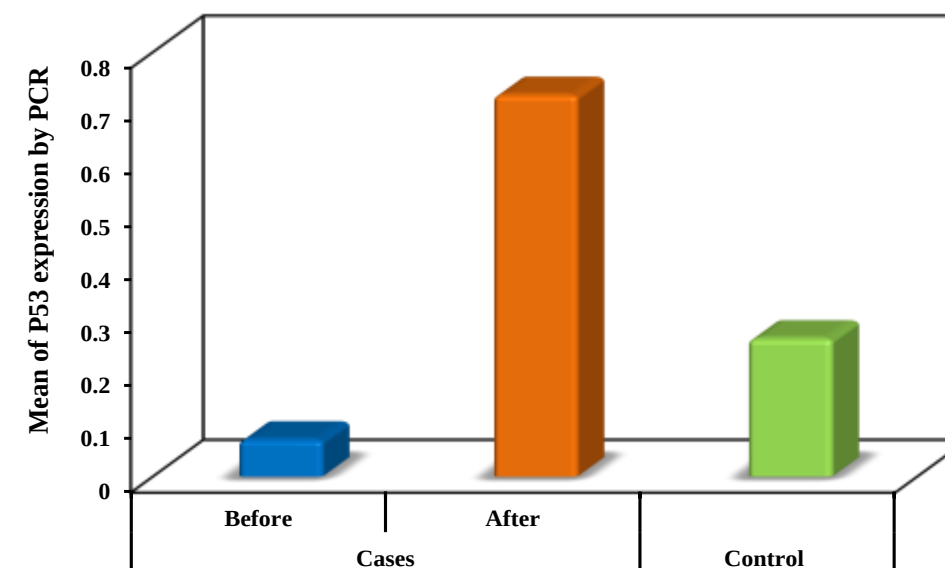


Figure 2 : Comparison between the two studied groups according to P53 gene expression by RT-PCR

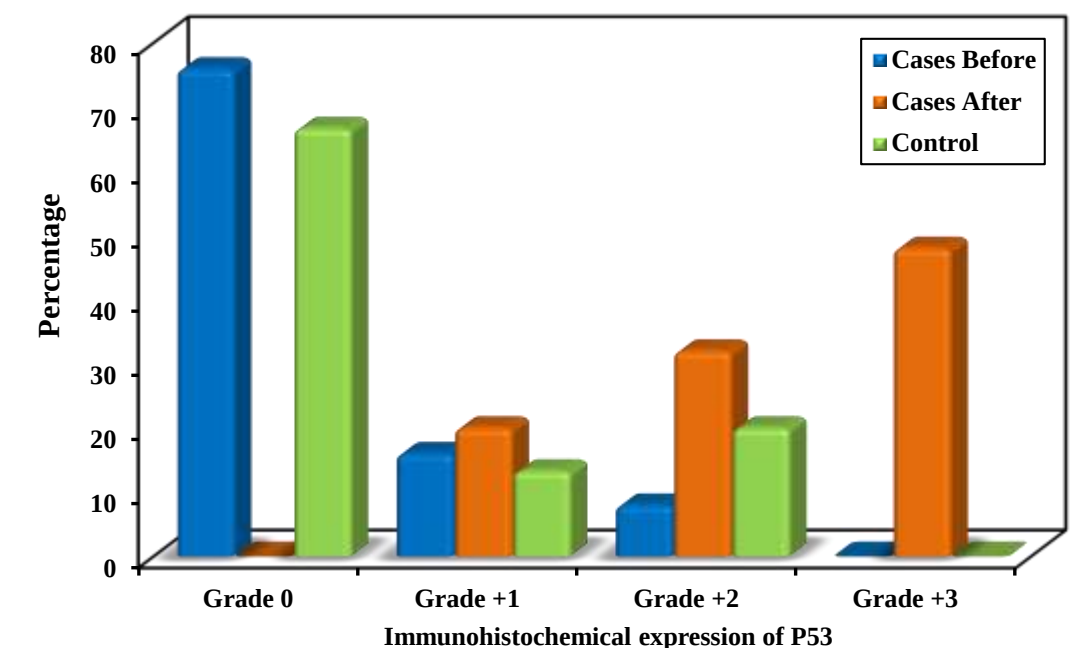


Figure 3 : Comparison between the two studied groups according to Immunohistochemical expression of P53

CONCLUSION

There is increased expression of p53 in human sebocytes in vivo by immunohistochemistry, ELISA and PCR after 6 weeks of isotretinoin treatment in patients with acne vulgaris which explains all adverse effects of the drug including teratogenicity that are due to p53- mediated apoptosis.