

A STUDY OF THE EFFECT OF NB-UVB PHOTOTHERAPY ON SERUM FOLATE LEVELS IN PATIENTS WITH CHRONIC PLAQUE PSORIASIS

Fairouz Khalil Badran, Nouran Abd-El Aziz Abou Khadr, Amany Nabil Abd El-Salam

. Department of Dermatology, Venereology and Andrology , Faculty of Medicine, Alexandria University, Egypt.

Introduction

Psoriasis is a chronic immune mediated disease characterized by abnormal proliferation and differentiation of epidermal keratinocytes. It is a multifactorial disease with genetic background, environmental triggering factors, and immunological mediators, there are multiple clinical types of psoriasis the most common type is chronic plaque psoriasis (psoriasis vulgaris) which characterized by sharply demarcated scaly erythematous cutaneous lesions.

One of the most recent elements to be measured in psoriatic patients is the serum folate level, it is an essential water soluble vitamin naturally present in food that is required for biosynthesis of the DNA building units. Photolysis of folate may be significant, especially when serum is exposed in vitro to ultraviolet (UV) radiation, so the degradation effect of NB-UVB phototherapy in psoriatic patients is a matter of interest.

Narrowband ultraviolet B (NB-UVB) is an important therapeutic tool of generalized psoriasis. can be used as a single monotherapy or combined with other topical or systemic agents in more generalized severe psoriatic patients, inducing more apoptosis of pathogenic T cells and highly proliferating keratinocytes.

Aim of the work

The aim of the study was to evaluate the effect of NB-UVB phototherapy on serum folate levels in patients with chronic generalized plaque psoriasis in comparison to non-psoriatic healthy control group.

Subjects

The study was conducted on two groups
- Thirty Patients of both genders with chronic generalized plaque psoriasis > 18 years.
- Thirty age and sex matched non-psoriatic healthy normal controls.

Methods

Psoriasis was assessed clinically and the disease severity was quantified using (PASI) Before and after receiving NB-UVB phototherapy sessions. Serum folate levels were measured for all psoriatic patients before and after treatment with NB-UVB phototherapy sessions and also for all healthy non-psoriatic controls.

Results

Table (1): Comparison between pre and post NB-UVB phototherapy treatment according to PASI in cases group

PASI	Pre		Post		Test of Sig.	P
	No.	%	No.	%		
Mild (< 10%)	0	0.0	9	30.0	MH= 38.50	<0.001*
Moderate (10-<30%)	20	66.7	21	70.0		
Severe (30-50%)	10	33.3	0	0.0		
Min. – Max.	11.0 – 40.0		6.0 – 19.0		t= 11.559*	<0.001*
Mean ± SD.	24.30 ± 9.20		11.60 ± 4.15			
Median (IQR)	25.0 (15.0 – 32.0)		11.0 (8.0 – 15.0)			

group

t: Paired t-test

MH: Marginal Homogeneity Test

IQR: Inter quartile range: p value for comparing between pre and post*: Statistically significant at p ≤ 0.05

Table (2): Comparison between the two studied groups according to serum folate levels

Serum folate levels	Cases (n = 30)		Control (n = 30)
	Pre	Post	
Min. – Max.	7.0 – 15.50	4.0 – 9.0	7.50 – 15.60
Mean ± SD.	9.89 ± 2.24	6.17 ± 1.39	10.87 ± 2.46
Median (IQR)	9.05 (8.20 – 11.30)	6.25 (5.0 – 7.0)	10.20(8.70 – 12.60)
Sig. bet. grps.	p ₁ <0.001*, p ₂ =0.112, p ₃ <0.001*		

t: Student t-test

IQR: Inter quartile range

p₁: p value for t: Paired t-test for comparing between pre and post

p₂: p value for t: Student t-test for comparing between pre cases and control

p₃: p value for t: Student t-test for comparing between post cases and control

*: Statistically significant at p ≤ 0.05

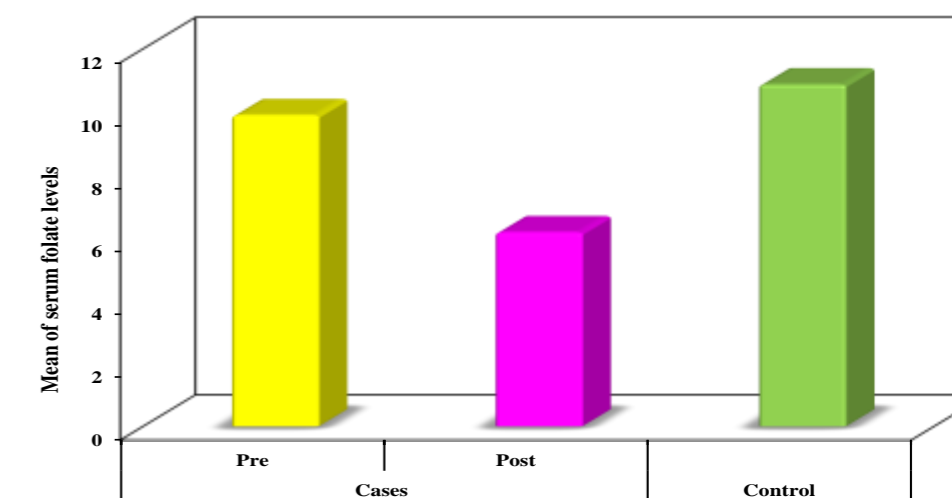


Figure (3): Comparison between the two studied groups according to serum folate levels

Conclusion

Findings of the present study revealed that receiving treatment with NB-UVB phototherapy in patients with chronic generalized plaque psoriasis could decrease serum folate levels which may further predispose these groups of patients into further complications.