



ORIGINAL ARTICLE

Photocarcinogenic Risk Associated With Narrowband UV-B Phototherapy: An Epidemiologic Study in a Tertiary Care Hospital[☆]



J.M. Ortiz-Salvador,^{a,*} D. Subiabre-Ferrer,^a M. Saneleuterio-Temporal,^b
A.M. Victoria Martínez,^a A. Pérez-Ferriols,^a J.J. Vilata Corell,^a V. Alegre de Miquel^a

^a Hospital General Universitario de Valencia. Servicio de Dermatología

^b Hospital Universitario y Politécnico La Fe

Received 17 September 2017; accepted 6 January 2018

Available online 26 March 2018

KEYWORDS

Phototherapy;
Narrowband
ultraviolet B;
Photocarcinogenesis;
Nonmelanoma skin
cancer;
Squamous cell
carcinoma: Basal cell
carcinoma;
Ultraviolet

Abstract

Background: The risk of skin cancer in patients treated with narrowband (NB) UV-B phototherapy is not well understood. Although experimental studies have shown that there is a risk, clinical studies have not detected an increased incidence of cancer following treatment. The aim of this study was to determine the incidence of nonmelanoma skin cancer (NMSC) in patients treated with NB UV-B phototherapy at a tertiary care hospital in the Mediterranean area.

Material and methods: We conducted a retrospective chart review of 474 patients who received whole-body NB UV-B phototherapy at our hospital between 2002 and 2016 and identified those diagnosed with NMSC during follow-up. We calculated the corresponding crude and standardized incidence rates and compared these with rates in the general population in a similar geographic area.

Results: Of the 474 patients, 193 (40.7%) were men and 281 (59.3%) were women. The mean (SD) follow-up period was 5.8 (3) years. The prevalence of NMSC at the end of the study period was 1.9% and the standardized incidence was 108.3 cases per 100 000 patient-years. The SIR of 1.9 in the study group was not significantly different from that of the general population. The number of patients who needed to be treated with NB UV-B phototherapy for 1 case of NMSC to occur was 1900.

Conclusion: NB UV-B phototherapy does not appear to be associated with an increased risk of NMSC

© 2018 Elsevier España, S.L.U. and AEDV. All rights reserved.

[☆] Please cite this article as: Ortiz-Salvador JM, Ferrer DS, Saneleuterio-Temporal M, Victoria Martínez AM, Ferriols AP, Vilata Corell JJ, et al. Riesgo de fotocarcinogénesis asociado a la fototerapia UVB-BE. Estudio epidemiológico de un hospital terciario. Actas Dermosifiliogr. 2018;109:340–345.

* Corresponding author.

E-mail addresses: josema.ortiz.salvador@gmail.com, josema.ortiz.salvador@hotmail.es (J.M. Ortiz-Salvador).

PALABRAS CLAVE

Fototerapia;
 Ultravioleta B de
 banda estrecha;
 Fotocarcinogénesis;
 Cáncer cutáneo no
 melanoma;
 Carcinoma
 epidermoide
 cutáneo;
 Carcinoma
 basocelular;
 Ultravioleta

Riesgo de fotocarcinogénesis asociado a la fototerapia UVB-BE. Estudio epidemiológico de un hospital terciario

Resumen

Introducción: Actualmente el riesgo de cáncer cutáneo asociado a la fototerapia UVB de banda estrecha no se conoce con precisión. Aunque existe un riesgo demostrado en estudios experimentales los estudios en la práctica clínica no han encontrado un aumento en la frecuencia de neoplasias en los pacientes tratados con esta modalidad de fototerapia. El objetivo de nuestro trabajo es determinar la incidencia de fotocarcinogénesis de la fototerapia UVB-BE en un hospital terciario del área mediterránea.

Material y método: Se ha realizado un estudio observacional retrospectivo seleccionando 474 pacientes que habían recibido tratamiento con UVB-BE de cuerpo completo entre 2002 y 2016 realizando un seguimiento en la historia clínica revisando los pacientes que habían sido diagnosticados de CCNM. Se calculó la densidad de incidencia bruta y ajustada y se comparó con la frecuencia en la población normal de un área geográfica similar.

Resultados: De los 474 pacientes estudiados, 193 eran hombres (40,7%) y 281 mujeres (59,3%). El tiempo medio de seguimiento fue de 5,8+-3 años. La prevalencia de neoplasias al final del periodo de estudio fue del 1,9%. La densidad de incidencia ajustada fue de 108,3 casos / 100.000 pacientes tratados - año. La relación estandarizada de riesgo en comparación con la población general fue de 1,9 sin llegar a ser estadísticamente significativa. El número necesario a tratar para producir un caso de cáncer cutáneo fue de 1.900 pacientes.

Conclusión: La fototerapia UVB-BE no parece asociarse con un riesgo aumentado de cáncer cutáneo no melanoma en los pacientes tratados con esta modalidad de tratamiento.

© 2018 Elsevier España, S.L.U. y AEDV. Todos los derechos reservados.

Introduction

Phototherapy is a physical treatment modality based on ultraviolet light that is widely used in dermatology. The most widely used modality today is narrowband (NB) UV-B phototherapy, owing to its safety and convenience.¹

Despite being a relatively safe technique, NB UV-B phototherapy causes concern, mainly because of the hypothetical risk of nonmelanoma skin cancer (NMSC).

The photocarcinogenic risk of other phototherapy modalities, such as psoralen UV-A (PUVA), is well recognized.^{2,3} This risk has proven greater for cutaneous squamous cell carcinoma (SCC), especially on the lower limbs.⁴

Experimental studies have shown the carcinogenic effects of broadband UV-B phototherapy. NB UV-B has proven to be more carcinogenic than broadband UV-B in animals.^{5,6} Nevertheless, no clinical practice-based study has managed to demonstrate an increased risk of NMSC or melanoma associated with NB UV-B phototherapy.²

The incidence of NMSC varies considerably according to several factors (eg, geographic region, skin phototype, and sun exposure habits). Therefore, caution should be exercised when extrapolating the findings of epidemiological studies on NMSC performed in specific geographical regions to other populations. In the case of the Spanish population, several studies have determined the incidence of NMSC in populations from different geographic areas.⁷

As for data on NMSC in patients treated with NB UV-B, current studies in the Mediterranean area are scarce and heterogeneous and based on small samples.^{8,9}

Under the working hypothesis that NB UV-B phototherapy has a low or nonexistent risk of carcinogenesis, the

main objective of the present study was to determine the incidence of skin cancer in patients treated with NB UV-B phototherapy and to compare it with the incidence among the general population in a similar geographic area.

Material and Methods

We performed a retrospective observational study of 474 patients who had received full-body NB UV-B phototherapy between 2002 and 2016 at the Photobiology and Phototherapy Unit of Hospital General Universitario de Valencia (HGUV), Valencia, Spain.

The inclusion and exclusion criteria are set out below.
 Inclusion criteria

- Skin disease treated with NB UV-B phototherapy at the Photobiology and Phototherapy Unit of HGUV between 2002 and 2016.
- Data from at least 1 year of follow-up.

Exclusion criteria

- Treatment with a phototherapy modality other than NB UV-B before treatment with NB UV-B or before the appearance of the first tumor.

Patients received NB UV-B phototherapy using the Waldmann UV-7002 or Waldmann UV-7001K system. The treatment protocols were those recommended by the Spanish Photobiology Group (Grupo Español de Fotobiología).¹⁰

Download English Version:

<https://daneshyari.com/en/article/8710003>

Download Persian Version:

<https://daneshyari.com/article/8710003>

[Daneshyari.com](https://daneshyari.com)