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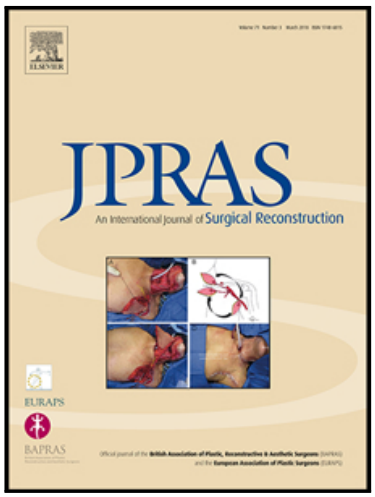

Topical Application of Photofrin® for Photodynamic Diagnosis of Malignant Cutaneous Neoplasms

Yu-Te Lin , Yen-Chang Hsiao , Yu-Fan Chiang , Cheng-Jen Chang

PII: S1748-6815(18)30218-3
DOI: 10.1016/j.bjps.2018.05.051
Reference: PRAS 5715

To appear in: *Journal of Plastic, Reconstructive & Aesthetic Surgery*

Received date: 10 November 2017
Revised date: 13 April 2018
Accepted date: 26 May 2018

Please cite this article as: Yu-Te Lin , Yen-Chang Hsiao , Yu-Fan Chiang , Cheng-Jen Chang , Topical Application of Photofrin® for Photodynamic Diagnosis of Malignant Cutaneous Neoplasms , *Journal of Plastic, Reconstructive & Aesthetic Surgery* (2018), doi: 10.1016/j.bjps.2018.05.051

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Topical Application of Photofrin® for Photodynamic Diagnosis of Malignant Cutaneous Neoplasms

Yu-Te Lin [a], Yen-Chang Hsiao [a], Yu-Fan Chiang [b], Cheng-Jen Chang [c, d, e*]

[a] Department of Plastic Surgery, Chang Gung Memorial Hospital, Chang Gung University, Taipei, Taiwan
[b] School of Physiology, Pharmacology and Neuroscience, University of Bristol, Bristol, UK.
[c] Department of Plastic Surgery, Taipei Medical University Hospital, Taipei, Taiwan
[d] Graduate institute of biomedical optomechatronics, College of Biomedical Engineering, Taipei Medical University, Taipei, Taiwan
[e] Department of Surgery, School of Medicine, College of Medicine, Taipei Medical University, Taipei, Taiwan

Running title: Photodynamic diagnosis of malignant cutaneous neoplasms

spondent author:
Cheng-Jen Chang, M.D, PhD, FACS
Department of Plastic Surgery
Taipei Medical University Hospital
No.252, Wu Hsing Street, Taipei City 110, Taiwan
TEL:02-27372181 ext 3381
E-Mail: chengjen@h.tmiu.edu.tw

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ABSTRACT

Objectives: The prognosis of patients suffering from malignant cutaneous neoplasms can be improved by early diagnosis. Exact demarcation of tumor margins could contribute to optimum results in surgical excision and reconstruction. The purpose of our study is to evaluate Photofrin® with a new diagnostic procedure, photodynamic diagnosis (PDD), for the detection of Bowen's disease (squamous cell carcinoma in situ), squamous cell carcinoma (SCC), and basal cell carcinoma (BCC).

Materials and methods: Sixty patients with cutaneous neoplasms received 2.5mg/mL Photofrin® solution topically. After a period of three hours, the patients underwent fluorescence illumination (λex = 370-450 nm). Guided by their visible fluorescence, lesions were biopsied at four suspicious sites on each patient. All specimens were analyzed and measured by a pathologist. A quantitative analysis of the fluorescence contrast between the neoplasms and healthy tissue was performed using the RGB Mode (Red, Blue, Green) and GS (Gray Scale). Statistical analysis was performed by means of the ANOVA test for multiple comparisons.

Results: Of the 60 patients (20 Bowen's disease, 20 squamous cell carcinoma, and 20 basal cell carcinoma), malignant neoplasms could be clearly distinguished from adjacent healthy tissue

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