European Conference of Scientists and Plastic Surgeons

Helsinki, Finland

17 - 18 September 2010

Dr. Khoo Teng Lye
Unit Sains Rekonstruktif,
PPSP

14th European conference of Scientist and Plastic Surgeons

ECSAPS

September 17th and 18th, 2010

Helsinki, Finland

F8 A PROSPECTIVE, RANDOMIZED, DOUBLE-BLINDED TRIAL TO STUDY THE EFFICACY OF TOPICAL TOCOTRIENOL IN THE PREVENTION OF HYPERTROPHIC SCARS

T.L. Khoo, A.S. Halim, Z. Zakaria, A.Z. Mat Saad, L.Y. Wu, H. Y. Lau

Teng Lye Khoo (T.L. Khoo): Lecturer, Plastic and Reconstructive Surgeon, Reconstructive Sciences Department, School of Medical Sciences, Health Campus, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia.

Ahmad Sukari Halim (A.S. Halim): Chairman of Reconstructive Sciences Program and Senior Consultant Plastic and Reconstructive Surgeon, School of Medical Sciences, Health Campus, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia.

Zairizam Zakaria (Z. Zakaria): Plastic and Reconstructive Surgeon, Department of Plastic and Reconstructive Surgery, Hospital Kuala Lumpur, Kuala Lumpur

Arman Zaharil Mat Saad (A.Z. Mat Saad): Trainee Lecturer, Reconstructive Sciences Department, School of Medical Sciences, Health Campus, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia.

Loo Yee Wu (L.Y. Wu): Plastic and Reconstructive Surgeon, Department of Plastic and Reconstructive Surgery, Hospital Kuala Lumpur, Kuala Lumpur, Malaysia

Hut Yee Lau (H.Y. Lau): Science Officer, Reconstructive Sciences Department, School of Medical Sciences, Health Campus, Universiti Sains Malaysia, 16150 Kubang Kerian, Kelantan, Malaysia.

Institution: Reconstructive Sciences Department, Hospital Universiti Sains Malaysia, Health Campus, Universiti Sains Malaysia, 16150 Kubang Kerian, Kota Bharu, Kelantan, Malaysia.

email presenting author: khootenglye@yahoo.co.uk

Background: Despite widespread beliefs regarding the use of topical tocotrienol in the prevention of hypertrophic scars, there is very little evidence from well-controlled and randomized clinical trials to justify its benefits for surgical scars.
Objective: The present study was conducted to evaluate the efficacy of topical tocotrienol in preventing the development of hypertrophic scars.
Methods: A prospective, randomized, double-blinded study was performed in which the patients were randomized into either treatment group with 5% topical tocotrienol or a placebo group. The patients were required to apply the preparation to their scars twice a day for six weeks starting at two weeks after surgery. An evaluation of the scars was performed at weeks 0, 2, 6 and 16 following the onset of topical application using three methods: a clinical assessment using the Patient and Observer Scar Assessment Scale (POSAS), a photographic scar assessment by two independent assessors using a visual analogue scale, and laser Doppler imaging (LDI).
Results: There was no statistically significant difference in scar parameters between the tocotrienol group (n=43) and the placebo group (n=40) in the POSAS, photographic scar assessment or mean flux of LDI ($p>0.05$). The mean LDI flux showed decreasing trend over time, which was positively correlated with the vascularity score (correlation coefficient=0.322) of observer scar assessment scale on week 0 ($p=0.018$) and total score of the patient scar assessment scale on week 6 (correlation coefficient=0.354, $p=0.009$). No significant adverse effects were observed.
Conclusions: Twice daily application of 5% topical tocotrienol had no significant effect on the appearance and perfusion of scars over four months post-surgery. LDI has a promising role as a scar assessment tool.