Finally, even if (as stated by Dr Scrup) our paper deals with a small segment of TEWL standardization (it was restricted in the title to “kinetic and topographic aspects”), I still believe that it is useful to confirm and precise experimental data concerning TEWL measurements.

REFERENCES

Prof. JJ Guilhou, Head Department of Dermatology-Phlebology and Laboratory of Molecular Dermatology, Montpellier F 34295, France.

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**Laser Treatment of Port Wine Stains: A Study Comparing Therapeutic Outcome with Morphologic Characteristics of the Lesions**

**Preliminary Results**

Sir,

Port wine stains and other forms of benign dermal superficial vascular ectasia are now treated with flash lamp-pumped dye lasers. Depending on the morphology of the lesions, there are great variations in clinical response.

Telangiectatic lesions achieve complete resolution after 2 to 4 treatments (1), while port wine stains in general need an average of 6.5 treatments to obtain complete remission (2). This study was designed to obtain information about possible correlations between treatment outcome and lesional morphology.

**METHODS**

Thirteen patients aged 15 to 52 years (average age 34.2 years), with pink to purple macular port wine stains, were included. Two of the lesions were located on the neck, two on the upper arm and nine on the trunk. Prior to admission of laser light, 3-mm punch biopsies were taken from lesional and peri-lesional skin. The biopsies were analyzed by a data-assisted program (Kontron image analysis systems, Videoplan), measuring vessel number and diameter. A Candela LPDL-5 flash lamp-pumped dye laser emitting at a wavelength of 585 nm (yellow light) with a pulse duration of 450 μs was used. Test areas with three different energy fluences (5.25, 6.50, 7.75 J/cm²) were given to each lesion. The energy fluence was calculated from the energies registered on Ophir energy meter model DGX, energy monitor model FF50-APH. The test areas were located close to the site of the biopsy. Two months after laser irradiation the percentage of lightening of the test areas was evaluated by photographs and clinical judging with Pantone color system as reference. The lesions were grouped into non-responders (less than 25% clearance), moderate responders (25–75% clearance) and excellent responders (more than 75% clearance). The test areas were then retreated 2–4 times with the test dose that gave the highest degree of lightening.

**RESULTS**

An increased vessel number was observed in the upper 0.5 mm of dermis for all lesions.

Four patients aged 23–52 years (average age 40 years) achieved excellent lightening at one or more of the test areas. The lesions of the excellent responders were red to purple. One was located on the neck, one on the arm and two on the trunk. Histologically (Fig. 1a), these lesions were characterized by

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*Fig. 1a. Biopsy (HES, original magnification ×26) from an excellent responder.*

*Fig. 1b. Biopsy (HES, original magnification ×65) from a non-responder.*
vessels having a considerably larger diameter than the diameter of vessels in peri-lesional skin (1.6–3.4 times). The average vessel diameter for the excellent responders was 0.088 mm (0.056–0.102 mm).

Four patients aged 15–43 years (average age 25.3 years), all with lesions located on the trunk, three pink and one purple, achieved poor lesional lightening and were classified as non-responders. These lesions (Fig. 1b) consisted of smaller vessels with an average diameter of 0.035 mm (0.031–0.046 mm), and the ratio of vessel diameter in lesional and peri-lesional skin was 1–1.5 on average. The non-responders did not benefit from repeated treatments.

The five moderate responders aged 26–52 years (average age 35.8 years) had red to purple lesions, one located on the neck, one on the arm and two on the trunk. The lesional vessel diameter was 0.083 mm on average. These vessels generally had considerably thicker walls than the vessels in the excellent responder group, based on qualitative judging.

DISCUSSION
In general the vessels of the non-responding lesions were small, with a lesional/peri-lesional vessel diameter ratio of less than 1.6. In the treatment of port wine stains it is shown that the ectatic vessels are replaced by vessels of normal size (3). Hypothetically the new vessels may shield deeper layers of slightly ectatic vessels. This could explain the lack of additional lightening after repeated treatments.

The results indicate that the thickness of the vessel wall is essential to therapeutic outcome. Lesions with an average vessel diameter of 0.056 to 0.102 mm respond better than vessels with approximately the same diameter and thicker walls. Possibly the whole vessel wall and not only the endothelial lining has to be destroyed to obtain permanent vessel occlusion. We plan to measure the vessel wall diameter by using a more advanced image-analyzing system. This study will be continued until we have sufficient data to verify the results by statistic analysis.

REFERENCES

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ANNOUNCEMENTS

XVth course of Paediatric Dermatology (in French) will be held in Arcachon, France on April 18–21, 1995. For further information please contact Prof. A. Taieb, Unité de Dermatologie Pédiatric, Hôpital Pellegrin-Enfants, Place Amélie Rabat Léon, F-33006 Bordeaux Cédex, France. Tel: +33-56 795622. Fax: +33-56 795987.

Symposium of Pediatric Dermatology will be held in Bordeaux, France on April 21–22, 1995. For further information please contact Prof. Alain Taieb, Groupe Hospitalier Pellegrin Enfants, Unité de Dermatologie Pédiatric, Place Amélie Rabat Léon, F-33006 Bordeaux Cédex, France. Tel: +33-56 79596722. Fax: +33-56 795987.

Vitamin D: Actions and Applications in Dermatology. European Society of Dermatological Research: Clinically Oriented Symposium will be held in Aarhus, Denmark on April 27–29, 1995. For further information please contact Prof. Knud Krogh, Department of Dermatology, Aarhus Hospital, DK-8000 Aarhus C, Denmark. Fax: +45-86 145363.

38th Congress of the German speaking Dermatologists will be held in Berlin, Germany on April 29th–May 3rd, 1995. For further information please contact Prof. Dr. Prof. h.c. C. E. Orfanos or Prof. Dr. B. M. Czarnetzki, Universitäts-Hautklinik u. Poliklinik, Klinikum Benjamin Franklin, Freie Universität Berlin, Hindenburgdamm 20, 12095 Berlin. Tel: +49-30 798 28 08. Fax: +49-30 798 44 41.

Scleroderma 1995. Clinical and Basic Research in Scleroderma and Pseudoscleroderma will be held in Warsaw, Poland on May 19–21, 1995. For further information please contact Lidia Rodmicka, M.D., PhD, Department of Dermatology, Warsaw Medical School, ul. Koszykowa 82A, 02-008 Warsaw, Poland. Tel. and Fax: +48-26 215180.

Tutorial on Dermatopathology – Cutaneous Lymphomas will be held in Graz, Austria on May 19–21, 1995. For further information please contact H. Peter Soyer, M.D., Department of Dermatology, University of Graz, Anengugergasse 8, A-8036 Graz, Austria. Ph: +43-316/385-3235. Fax: +43-316/385-3424.

First International Conference on Epidemiology, Cause and Prevention of Skin Diseases will be held in Marseille, France on May 25–27, 1995. For further information please contact Dr. J. Grob, ECPSD, Service de Dermatologie, Hôpital Sainte-Marguerite, 270 Bld de Ste Marguerite BP. 29. F-13277 Marseille (Cedex 9), France. Fax: 33-91 744781.

4th International Workshop on Langerhans Cells will be held in Scheveningen, The Netherlands on August 24–26, 1995. For further information please contact Leids Congres Bureau, Post Office Box 16005, 2301 GB Leiden, The Netherlands. Tel: +31-71 275290. Fax: +31-71 275264.

International Conference on the Prevention of Contact Dermatitis will be held in Zürich, Switzerland on October 5–7, 1995. For further information please contact PD Dr. P. Elsner, Department of Dermatology, University Hospital, Gloriusstrasse 31, CH-8091 Zürich, Switzerland. Tel: +41-1 255 3305. Fax: +41-1 255 4412.

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