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The Psoriasis Area and Severity Index and alternative approaches for the assessment of severity: persisting areas of confusion

Sir, Standardized procedures for medical technology assessment are a sine qua non for communication of the results of existing and new treatments in dermatology. Important progress has been made with respect to new treatments for psoriasis. Calcipotriol, tacalcitol and cyclosporin have become available over the last decade and various new antipsoriatic drugs are being evaluated for their efficacy and side-effects. In 1992, we reported on the limitations of the Psoriasis Area and Severity Index (PASI). However, the PASI remains the gold standard, a fossil tool of medical assessment.

The PASI score has persisted for 16 years as a handy simplification to describe the severity of psoriasis. The PASI is calculated as follows: PASI = 0.1 \times (E_0 + I_0 + D_0)A_0 + 0.3 \times (E_1 + I_1 + D_1)A_1 + 0.2 \times (E_2 + I_2 + D_2)A_2 + 0.4 \times (E_3 + I_3 + D_3)A_3 + 0.8 \times (E_4 + I_4 + D_4)A_4, where E = erythema, I = induration, D = desquamation and A = area. The various sites are: h, head; t, trunk; u, upper extremities; l, lower extremities. A numerical value is given to the extent of the lesions in these areas as follows: 1, < 10%; 2, 10 - 30%; 3, 30 - 50%; 4, 50 - 70%; 5, 70 - 90%; 6, 90 - 100%. I and D are assessed according to a four-point scale: 0 = no symptoms; 1, slight; 2, moderate; 3, marked; and 4, very marked.

An important weakness of the PASI system is the expression of very different aspects of psoriasis in one single figure. The therapeutic responsiveness of the more 'inflamed psoriasis' and the more 'hyperkeratotic variants' is very different. For example, unstable and pustular psoriasis responds well to monotherapy with acitretin, whereas the more chronic plaque lesions respond poorly. Sometimes an effective treatment may induce erythema. In dithranol therapy and phototherapy, the induction of some irritancy is part of the treatment, but will increase the PASI. The reproducibility of subjective scores of erythema, scaling and induration is difficult.

The interobserver variability in the assessment of the percentage of body surface involved with psoriasis is very high. In particular, the assessment of the area involved with psoriasis in patients with 'limited psoriasis' is extremely inaccurate. A further limitation of the PASI is that linearity in the extent of involvement does not exist between 0 and 100%. In over 80% of patients, involvement is less than 10% of the body surface.

Questions remain as to which parameters should be developed further for the assessment of severity of psoriasis. In order to assess the antipsoriatic capacity of a drug it is important to provide the scores for erythema, induration and scaling. In addition, the area of involvement has to be estimated. It is, however, inappropriate to condense this information into one figure. The assessment of antipsoriatic treatment usually takes into account the clearing capacity. However, post-treatment remission periods are of major importance for patients. Therefore, the following score has been suggested: response to treatment = number of weeks of intensive treatment needed to induce remission/number of months after treatment during which the patient is in remission.

In terms of quality of life, the post-treatment remission period is perhaps at least as relevant as the clearing capacity. To assess the value of established antipsoriatic treatments, it is important to estimate disease activity in terms of quality of life. Finlay and co-workers proposed the 'Sickness Impact Profile' and the 'Psoriasis Disability Index.' It is of interest that the PASI does not show a significant correlation with these scores.

New antipsoriatic treatments have been developed and others will soon become available. Some of these treatments are more effective in relapsing or pustular psoriasis, whereas others are indicated for the stable chronic plaque variety. Currently, an evaluation of a new therapy is carried out on large populations by many investigators in several centres. Before registration of the drug, the major factor will be its

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antipsoriatic efficacy and, following registration, improvement of psoriasis in terms of quality of life will be important. It is clear that the PASI will not be an adequate measure for dermatologists to use in the year 2000. This leaves us 2 years in which to develop a standardized approach within Europe to assess drug efficacy adequately. This approach must encompass an assessment of the severity of psoriasis, using established quantitative procedures, and involves the development of 'Quality of Life' scales. A joint venture between academic centres, the pharmaceutical industry and the offices of the European Union, to develop a standard approach for evaluation of antipsoriatic treatment is needed.

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Book Reviews


This short book costs about 50¢ a page, but it is worth it. Dr Alster writes with a determined practicality and clarity, with good advice on how to get started in laser work and on patient selection. There are individual chapters on the laser treatment of vascular lesions, tattoos and pigmented lesions. There is also a useful chapter on the laser management of scars, including acne scarring and striae, and one on skin resurfacing techniques which concentrates on techniques using various types of CO₂ laser. The book is very up-to-date and even contains accounts of laser-assisted hair removal. At the back of the book there is a very useful and up-to-date bibliography.

Medico-legal matters are obviously more pressing in practice in the United States than in the U.K., but Dr Alster is right to remind us about patient education and details her information sheets.

There is everything here for the dermatologist or plastic surgeon who wants to get started in dermatological laser therapy, and I hope the book will be updated on a regular basis.

I think the book could be strengthened with a chapter on laser safety and I was disappointed that there was no mention of the Erbium YAG laser, which appears to have a very significant place in skin resurfacing for acne scarring; however, these are only minor criticisms and I can thoroughly recommend this very easily readable addition to the dermatological laser literature.

J.A. Cotterill


This volume is a companion textbook to Laser Treatment for Naevi by Dr Ohshiro; the latter provides more theoretical and background information concerning laser treatments. This current volume concentrates on the clinical applications of laser treatments in dermatology and is essentially an atlas with detailed accompanying case reports. It is suggested, in one of the forewords, that the plastic surgeon and laser dermatologist armed with these two volumes will have all the knowledge needed on which to base their laser treatment protocol.

The atlas is divided into two chapters with multiple subdivisions; three appendices, one of which records the extraordinary variety of lasers available in the Ohshiro Clinic; an extensive reference list which is grouped by subject matter rather than relating to the text; and a brief index. The first chapter concerns the background to laser therapy, including historical aspects of plastic surgery. The second chapter, which represents the vast majority of the book (120 pages), contains multiple case reports. These are divided into blood vessel anomaly group, melanin anomaly group, tumours, and...