**W 01**

**Assessment of disease activity and therapy outcome in psoriatic arthritis**

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Measures to determine disease severity and effectiveness of therapies in psoriatic arthritis (PsA) have evolved from assessment tools which have largely been adapted from measures used in assessment of RA and psoriasis (Table 1). These have been used in clinical trials and clinical registries of PsA patients. To be used in clinical practice, however, modifications will likely need to be developed which can be performed quickly and reliably in the office setting. These measures have been shown to effectively assess peripheral joint and skin symptoms and signs, physical function, quality of life (QOL), and fatigue, as well as distinguish treatment from placebo. Despite the fact that two major domains are involved, both musculoskeletal and skin, which may have differing impacts and response to therapy, and not just musculoskeletal or skin, methodologically, these measures have demonstrated good performance characteristics. Approaches to assessment of enthesitis, dactylitis, spine involvement, as well as broader measures of function and QOL which more accurately depict a patient’s ability to participate in meaningful life activities are still in development. Adaptations of RA methodologies to assess structural damage through radiographs have been utilized effectively in a number of recent PsA clinical trials, suggesting that such approaches are appropriate in PsA despite its differences from RA. Several studies have documented the effectiveness of ultrasound and MRI in detecting inflammation in the joints and enthesium of SpA patients, as well as the extent of structural damage. As these tools become more refined and widely accessible, they will enhance our ability to diagnose the disease earlier and assess the effectiveness of therapy in treating inflammation and inhibition in the progression of joint damage.

International consortia of investigators, such as the Group for Research and Assessment of Psoriasis and Psoriatic Arthritis (GRAPPA), involving both rheumatologists and dermatologists, are involved in the process of developing, refining and validating assessment measures in PsA. In the Outcome Measures in Rheumatology Clinical Trials (OMERACT) process, a core set of measures has been agreed upon to be performed in all PsA clinical trials: joint assessment, skin assessment, patient global, pain, physical function, and QOL. The next challenge of research will be to develop simplified versions of these measures which can be easily used in clinical practice and that show valid correlation with those used in clinical trials. Accurate assessment of disease severity and response to therapy is important as more targeted, effective, yet costly therapies are developed and as health agencies and insurance companies increasingly require quality measures for accountability of clinical practice.

| Arthritis response | Radiographic assessment |
|--------------------|-------------------------|
| ACR Response Criteria | Modified (for PsA) Sharp |
| Psoriatic Arthritis Response Criteria (PsARC) | Modified (for PsA) van der Heijde/Sharp |
| Disease Activity Score (DAS, DAS 44, DAS 28) | |

Table 1: Measures used in assessment of PsA

**Skin response**

Psoriasis Area and Severity Index (PASI)
Target Lesion score
Physician Global Assessment (PGA) of Psoriasis

**QOL/function improvement**

Short-Form 36 Health Survey (SF-36®)
Health Assessment Questionnaire (HAQ) Disability Index
Dermatology Life Quality Index (DLQI)
Functional Assessment of Chronic Illness Therapy (FACIT)

Reference
Mease PJ, Antoni CE, Gladman DD, Taylor WJ. Psoriatic arthritis assessment tools in clinical trials. *Ann Rheum Dis* 2005;64: ii49–ii54.

**W 02**

**Using psoriasis severity scores in clinical practice**

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Assessment of disease severity is of crucial importance in clinical practice. However, the approaches to disease severity may vary according to the ‘definition’ of severity. Is it the degree that the psoriatic process is expressed in an individual lesion? Is it the extent of the disease? Is it the degree of suffering of an individual patient? Is it the difficulty to treat an individual patient?

In the assessment of disease severity it is import to reconcile the objective severity in terms of extent and severity of erythema, in duration and scaling. Several scoring systems will be presented. As second but at least as important issue, the quality of life issue has to be addressed. Several approaches to quality of life will be presented. Finally the historical severity has to be reconciled. Has the patient suffered in the past from erythodermic or pustular disease? Did the patient need systemic treatments in the past? This third approach to severity assessment in general is descriptive.

Using objective, quality of life and historical disease severity, a more complete severity assessment can be carried out which is meaningful for clinical practice.

**W 03**

**Update: Eden survey of psoriasis clinical trial methods**

L. Naldi on behalf of the European Dermatoepidemiology Network

EDEN®, Ake Svensson, Dennis Linder, Thomas Diepgen, Peter Ehrsner, Jean-Jacques Grob, Pieter-Jan Coenraads, Jan Nico Bouwes Bavinck, Hywel Williams

New developments have been claimed in recent years with the management of psoriasis, especially due to the advent of so-called biological agents. A systematic search of randomised clinical trials for psoriasis published from January 1977 up to June 2006 in 14 leading medical and dermatological journals was performed by the European Dermatoepidemiology Network. The aim of this analysis was to document
recent trends in the design, conduct and analysis of clinical trials on psoriasis. The situation over time was quite stable with few exceptions. The average number of patients enrolled in a trial increased over time, the proportion of sponsored trials also increased and was accompanied by a higher proportion of papers published in general medical journals. Overall, the introduction of new options for the treatment of psoriasis was not accompanied by remarkable changes in study design with a lack of comparative, long lasting randomized trials adopting clinically relevant end points.

**W 04 Scoring severity of psoriasis**

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Many different rating systems have been used in clinical studies of psoriasis [1]. However, the most commonly used rating systems are the Psoriasis Area Severity Index (PSI) and the Physicians Global Assessment (PGA). A new system developed by the author called the Lattice System Physicians Global Assessment (LS-PGA) was designed to combine the best aspects of PASI and PGA along with meeting regulatory requirements and ease of use. These systems have been compared to each other in two validation trials. [2,3] In this report, severity is a reflection of both the extent of the psoriasis on patients’ body surface areas and the intensity of the visible psoriasis.

The LS-PGA provides a final score from clear to very severe and thus, like PASI and PGA, has an intuitive result. However the similarity ends there. The PGA, has an intuitive result. However the similarity ends there. The LS-PGA was designed to address problems in the PASI and PGA. The LS-PGA uses anchored ranges of extent of involved body surface. For example, in more severe patients the rater can decide whether the patient has approximately 1/4, 1/3, or 1/2 or more of the body surface involved with psoriasis. The final LS-PGA score is driven by the surface involvement and the plaque qualities (the most significant clinical sign of the disease, elevation, is given more weight than scale or erythema that may vary daily or due to ambient conditions). The LS-PGA is standardized across clinical studies and changes are not allowed in the LS-PGA method; therefore, results can be compared across various clinical studies. Further, the LS-PGA can be performed quickly and easily in clinical trials and in doctors’ offices. A version for scoring individual plaques in clinical trials of topical agents is also available.

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**W 05 Management of psoriatic patients with severe pustular psoriasis**

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Severe pustular psoriasis mostly consists of its generalised, so called von Zumbusch generalised form (GPP) (1). Although GPP may be observed together with plaque-type psoriasis history in the same patients in about 30% of cases, most of the cases display features distinctive of psoriasis vulgaris. Thus, GPP may be associated with life-threatening manifestations such as sepsis or severe hemodynamic or metabolic perturbations. Furthermore, extracutaneous involvement has been observed in patients with GPP, mostly consisting of arthritis, and mucous membranes lesions. More recently, a high incidence of cholestasis has been shown in patients with GPP, with evidence of neutrophilic cholangitis on liver biopsy samples, and with images similar to cholangitis sclerosing on magnetic resonance cholangiopancreatography (2). This latter set of data indicate that GPP is associated with a high frequency of extracutaneous involvement, and warrants the need for studies investigating the impact of highly potent treatments, mostly TNF inhibitors. They also raise the need for clinicians to recognize and diagnose accurately manifestations of specific liver/biliary involvement, in patients with severe pustulosis in order to avoid misdiagnosis such as drug-induced hepatitis in patients receiving retinoids or methotrexate. Regarding cutaneous involvement, recently reported case series indicate that TNF alpha-inhibitors are likely to provide benefit in individual cases of GPP (3). However, given the lack of strong evidence for a high efficacy of traditional systemic treatments such as acitretin and methotrexate in patients with GPP, prospective studies investigating the efficacy and safety of novel biological agents such as TNF alpha inhibitors on larger samples of patients are clearly warranted.

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Management of psoriatic patients with severe psoriatic arthropathy
Alberto Giannetti
Italy

Objectives: These facts have completely changed. The TNF-alpha blockers appeared to be unavoidable. Thanks to the availability of TNF-alpha blockers, these facts have completely changed. The TNF-alpha blockers are in fact the only drugs which showed to be capable of stopping the progression of the disease. Therefore they have definitely replaced in the clinical practice MtX and G.A., as well as sulfasalazine and FANS.

Methods: The use of TNF-alpha blockers was evaluated in patients refractory to FANS, infiltrative local therapy with steroids and the treatment with at least one of the three basic drugs most commonly used.

Results: TNF-alpha blockers showed an efficacy in terms of improvement of the 24th week also the Sharp index is evaluated. Also the indexes on the life quality, such as SF 36, HAQ, FACIT have a significant value.

Conclusion: TNF-alpha blockers represent not only a new irreplaceable therapy for PA, but also a link between dermatologists and rheumatologists.

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Management of erythrodermic psoriasis
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Erythrodermic psoriasis is a severe disabling form of psoriasis with a reported prevalence among psoriatic patients in different studies ranging from 1.5% to 31%. Erythrodermic psoriasis usually develops gradually or acutely during the course of chronic plaque psoriasis. However, it may be uncommonly the first manifestation of psoriasis, even in children. The median age at onset is about 50 years. Concomitant arthropathy is common. The skin may become diffusely red, warm, and profoundly scaling to the point of generalized desquamation. Cutaneous blood flow may increase to more than two-thirds normal and can result in congestive heart failure. Temperature control is erratic. The patient suffers protein loss and electrolyte disturbance. In some cases, patients are at a risk of Staphylococcus aureus septicemia due to the skin barrier damage and use of immunosuppressants drugs. Erythrodermic flare is commonly associated with chills, edema, weight loss, pruritus and fever. Complications include dehydration, heart failure, infection, hypotension, protein loss and edema. The acute respiratory distress syndrome is a possible severe complication. Cases of lethal outcome have also been reported. Systemic diseases, emotional stress, infection, low blood calcium level, alcoholism, drugs like antimalarials and lithium, abrupt discontinuation of corticosteroid therapy, and excessive use of potent local corticosteroids may be precipitating factors for the development of erythrodermic psoriasis. UV radiation in an early eruptive stage of the disease may trigger erythroderma.

On making therapeutic decision for erythrodermic psoriasis, patient age, comorbidity and related medication, clinical symptoms and course of disease, recurrence rate, and response to previous therapy should be taken in consideration. Attention should be paid to aggravating factors such as infection, mental stress and some drugs.

As erythrodermic psoriasis is a relatively rare disease, there are no controlled studies on particular therapeutic options. Systemic therapy may include retinoids (acitretin), cyclosporine and methotrexate. Recently, biologicals have been used in the treatment. Data on the experience with alefacept, etanercept and infliximab have been reported. Patients should be hospitalized and closely monitored. In local therapy, bland emollients and cooling wet dressings are used. Due attention should be paid to the prevention and treatment of possible complications. Antibiotics, diuretics and nutritional support should be administered as needed. A consistent approach to crisis management is essential for patients with erythrodermic psoriasis.

The genetics of psoriasis
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Psoriasis [OMIM*177900] (PS) is a common, chronic and papulosquamous inflammatory skin disease affecting approximately 2–4% of Caucasian. However, this disorder is rare among Japanese, Eskimos, West Africans and North American blacks and very uncommon in North American and South American natives. The cause for these variations are likely to be both genetic and environmental. Independent genome-wide scans have suggested the involvement of a large number of chromosomal regions (loci) (PSORS1–9). Four of these loci are shared with another inflammatory disease, atopic dermatitis (ATOD), on chromosomes 1q21,
3q21, 17q25 and 20p although ATOD is quite distinct from PS and rarely these two diseases occur together in the same patient. Recently we refined on chromosome 1q21 the PSORS4 and ATOD2 susceptibility loci by using a LD approach in two cohorts of 128 PS and 120 ATOD Italian trios. We showed that PS and ATOD shared a risk-haplotype defined by STRs markers MIDDLE and ENDAL16. We failed to reveal evidence of association for LOR gene located within the risk-haplotype although a different gene expression has been observed in PS and ATOD. In order to reveal the identity of the susceptibility factor of PSORS4 and ATOD2 we newly refined the risk haplotype and its surrounding chromosomal regions (650 kb) by typing a selection of 31 SNPs in our familial cohorts of trios. Preliminary statistical analysis identified three distinct associated haplotypes within the selected region: the first, Hap1 (9.7 kb) generated significant association in both the diseases (PS p-value 0.0229; ATOD p-value 0.0077), the second, Hap2 (8.8 kb) is associated in the only ATOD cohort (p-value 0.0257); the third, Hap3 (38.3 kb) generated significant p-value in the only PS cohort (p-value = 0.0270). The weakness of association data reported could reflect the low penetrance of PSORS4 and ATOD2 but need to be confirmed in additional samples. Therefore, an independent set of sporadic psoriatic patients (n = 300) and further 60 ATOD trios are being typed at the moment.

Acknowledgements

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W 10

Pregnancy and psoriasis: one disease and two persons
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Psoriasis during pregnancy has to be taken into consideration always when treating psoriatic women with childbearing potential. Present literature reviewed most women suffering form psoriasis notice improvement or no change of the symptoms during pregnancy. Hormonal and immunological changes play a role in this improving effect by promoting a state of immune tolerance. It has been suggested that high levels of progesterone would correlate with improvement of psoriasis. In average 17% (range 4–26%) of pregnant psoriatic women the disease worsens during pregnancy. In these cases, localized disease can usually be treated with topical agents whereas a small number of patients need systemic and phototherapy during pregnancy. Excessive use of medication must be avoided. However, risk assessment must always be made on an individual basis and pregnant women with illnesses requiring treatment must be treated adequately. Drug safety classifications (FDA, FASS and ADEC) give crude estimation of risk and they should be used only as general guidelines.

During pregnancy, calcipotriol, local corticosteroids and dithranol can be used topically in localized psoriasis. Tazarotene is contraindicated during pregnancy. In more severe disease UVB phototherapy can be used combined with topical therapy. In widespread psoriasis systemic therapy may be needed. Acitretin and methotrexate are absolutely contraindicated. Cyclosporine may be used during pregnancy in selected cases. In pustular generalized psoriasis of pregnancy systemic steroids may be used. However, the risk of malformations especially during first trimester cannot be ruled out. There are no controlled studies of biologicals and pregnancy, although no complications have been reported in occasional cases of pregnancy during TNF-α inhibitor therapy. Because sufficient data is lacking these agents are not recommended during pregnancy.

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W 15

Treatment of anogenital psoriasis
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Anogenital psoriasis is a significant medical problem for the patient because it affects the quality of life, especially the sexual function, that deteriorates after the lesions appear. Most of the worsening can be explained by emotional factors that accompany psoriasis and by physical symptoms such as pain and irritation that may inhibit sexuality.

Anogenital psoriasis is a therapeutic and sometimes a diagnostic challenge for the dermatologist. The diagnostic is quite easy when there are extra genital lesions, whereas lesions limited to the genital area can be more difficult to recognize. Lesions appear as red, shiny, well-defined patches and plaques lacking the usual silvery scaling. They are symptomatic, especially at the edges and can become fissured and infected. If left untreated they can cause bleeding and mycotic and/or bacterial infections. Several effective treatments applicable in other areas, such as keratolytics, tar, anthralin or very potent corticosteroids cannot be used in this area, seriously limiting the dermatologist’s therapeutic armamentarum, and the use of phototherapy is also limited due to increased risk of skin cancer. Topical low-strength steroid creams, usually associated with antymiotics and antibiotics, are effective but care should be taken to prevent atrophy. Immunomodulators such as tacrolimus and pimecrolimus can control the lesions and do not have the risks of topical corticosteroids. Vitamin D analogues are another useful therapeutic option but their use is limited by their irritant effect. Systemic treatments (methotrexate, retinoids and biologics) should be used carefully, only in selected cases with extensive lesions, unresponsive to other treatments.

W 16

Nail psoriasis: a therapeutic challenge
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Background: Nail psoriasis can be debilitating in patients with plaque psoriasis and psoriatic arthritis, with significant effects on quality of life. Different features of nail involvement may respond variably to different therapies. Psoriatic nail disease is often refractory to treatment, and as therapeutic options are limited, it is currently an unsatisfying therapeutic experience.
Objective: In this difficult-to-treat localisation of psoriasis, topical and systemic treatments will be reviewed. As there are currently ongoing therapeutic clinical trials with new medications in psoriasis, questions arise concerning the effectiveness of these new therapies with regard to psoriatic nail disease.

Methods: Conventional topical and systemic agents experienced on nail psoriasis will be analyzed and preliminary data concerning changes in nail psoriatic involvement during biological treatments will be outlined.

Results: Topical therapies represent the main modality of treatment in the majority of cases. In patients with severe onychodystrophy, there is no consistently effective treatment nor definite protocols which may clinically resolve the nail alterations. To date, infliximab and alefacept regimens seemed to exert significant improvement on nail involvement.

Conclusion: Novel biological agents may induce clinical remission in cases refractory to most therapies. Furthermore, it would also be clinically relevant to compare the effects of these new emerging therapies on nail psoriasis.

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W 17 Psoriasis of the scalp
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The scalp is affected in at least 50% of patients with psoriasis and in about 20–25% of these patients may be the only site of involvement. Scalp psoriasis is characterized by sharply demarcated erythematous plaques covered with silvery-white parakeratotic scales of various thickness. Scalp psoriasis can severely reduce a patient’s quality of life, restricting lifestyle and type of clothing worn if extended, thus severely causing a lot of stress. The clinical manifestations of scalp psoriasis are variable, ranging from one or two small erythematous plaques to massive hyperkeratosis and the so-called ‘tinea amiantacea’. Scalp psoriasis is one of the most difficult responding sites to treatment. Choice of treatment should be tailored to patient’s needs and may vary at different times for the same individual. As most topical treatments for scalp psoriasis are messy and time consuming, patient compliance may be very low. Patients must be educated how to correctly use topical preparations (i.e. to part the hair over psoriatic site, to treat the scalp and not only the hair, to apply topical drugs to partings and how to massage).

The treatment of scalp psoriasis includes: Coal tar shampoos, salicylique acid, urea aqueous cream, ditromol, topical steroids, vitamin D3, analogues and all the existing systemic treatments.

W 19 Vitamin D combination treatment
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Vitamin D treatments have become first line treatment of psoriasis for more than 15 years. However, the efficacy of monotherapy is not marked and evidence has accumulated that calcipotriol in combination treatment is a highly effective and safe approach. Combination of vitamin D3 with other topical treatment has become a popular approach. In particular the synergistic effect of calcipotriol and betamethasone dipropionate has become a highly effective and safe topical principle.

The combination of calcipotriol with photo (chemo) therapy and various systemic treatments has been studied in controlled studies. The combination proved to contribute to efficacy and permit dose reductions of systemic treatments.

Combination treatment of vitamin D3 with other antipsoriatic treatments is an effective and safe approach.

W 20 Topical treatment in patients receiving systemic antipsoriatic therapy
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Psoriasis is a chronic, genetically determined, immuno-mediated, inflammatory skin disease affecting approximately 2–3% of Caucasian population. Plaque type is the most common form while in a percentage of patients that varies between 5–42%, depending on the population studied, psoriatic arthritis may occur.

Generally topical therapy, including local corticosteroids (alone or in combination), vitamin D analogues, retinoids, and anthralin, are used in treating mild psoriasis while systemic agents, including cyclosporin, methotrexate, acitretin, phototherapy and more recently biologics (anti-TNFα, anti-CD11a) are usually required in patients affected by moderate to severe plaque-type psoriasis or psoriatic arthropaties. Nevertheless, in patients receiving conventional systemic treatments for psoriasis a concomitant topical treatment is often necessary; in order to better control the symptoms of the disease. Moreover the use of topical therapy in these patients is useful in the period between treatments, as these systemic drugs cannot be used for long-term continuous treatment due to their organ toxicity.

With the introduction of the use of biologics in the treatment of moderate to severe plaque-type psoriasis or psoriatic arthritis an excellent therapeutic improvement has been obtained. Biologics are designed to modify and regulate pivotal and specific mechanisms involved in psoriasis’ immunopathogenesis. Their use results in high efficacy as well as a more favorable side effect profile than conventional treatments, allowing long-term continuous treatment. Nevertheless also in these patients topical therapies are used and in particular, may result very useful in controlling small relapses of the disease during treatment with these drugs.

W 22 Epidemiology and clinical characteristics in Japanese psoriasis
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Psoriasis is estimated to affect 0.05–0.1% of the Japanese population. The Japanese Society for Psoriasis Research has conducted an annual survey of patients with psoriasis in Japan for 24 years from 1982 to 2005. A sample of 36 355 patients (not overlapped) was collected from 148 selected...
dermatology clinics throughout Japan. Male patients (65.6%) were predominant over female patients (34.4%) in number, giving the male:female ratio almost 2:1. The vast majority of patients (89%) had plaque-type psoriasis, followed by acute guttate psoriasis (2.0%), and psoriatic erythroderma (<1%) and generalized pustular psoriasis (<1%). 1% of the patients manifested psoriatic arthritis. Existence of nail lesions was frequently reported (about 20% of the patients). Familial prevalence was 4.4% and paternal imprinting, a dominant inheritance from father to children, was observed. Concerning serological HLA-typing in some limited patients, Cw6 and Cw7 were significantly increased among the patients compared with normal individuals (Cw6: relative risk = 14.4, Cw7: relative risk = 2.5). Hypertension, diabetes mellitus, and obstructive cardiovascular diseases were frequent complications. Psychological stress, seasonal impacts, and infectious diseases were major exacerbating factors. Our epidemiological and clinical survey in Japan clearly indicates racial and ethnic differences among psoriatic patients.

Epidemiology of psoriasis in Europe

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The main interests of epidemiologic research is to assess the burden of skin disease in the population, to understand causes of skin diseases with a special focus on environmental modifiable factors, to evaluate means to prevent skin diseases, to promote an evidence-based approach to the diagnosis and treatment of skin diseases, and in conclusion, to optimise healthcare. Europe provides a unique 'natural experiment' of different ethnic groups, different geophysical conditions, different socioeconomic conditions and varying environmental factors in which to explore the possible causes of skin diseases including psoriasis.

The prevalence of psoriasis ranges in Europe between 1% and 4%. Although genetic-environmental interaction has been proposed as a model for the causation of psoriasis, the evidence for environmental factors is rather scarce. Risk factors which have been documented in epidemiological studies include smoking, alcohol consumption, diet, infection, drugs, and stresseful life events. A specific area of European collaboration is safety studies. The recent example of the Psonet initiative aiming at combining data from national registries on the systemic agents for psoriasis, offers an interesting example in this respect.

Psoriasis in Korea

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Psoriasis is a chronic relapsing disorder which shows variable clinical features. Psoriasis has been reported in all racial groups. Prevalence of psoriasis in outpatient clinic of Seoul National University for 30 years was 3.7%. Epidemiological and clinical data, with particular reference to extent and activity of psoriasis in 3443 newly registered psoriatic patient for past 20 years at Seoul National University Hospital Psoriasis Clinic were collected and analyzed.

In our patients, 54.5% were male and 45.5% were female. Psoriasis was divided by extent and activity of disease. With reference to extent of psoriasis 37.2% of patients were mild cases, 45.8% were moderate and 17.0% were severe. Most frequent age of onset was in the third decade of life. The Korean psoriasis patient was able to divided to early onset type (type I) and late onset type (type II) by age of onset of disease. Family histories were observed in about 26% of Korean psoriasis patients. Most common morphological features were nummular type and large plaque type.

We sought to evaluate the prevalence and characteristics of facial involvement. HLA-Cw*0602 showed the strongest association with psoriasis in Korean patients. A1, A30, B13, B37, DRB1*07, DRB1*10, DQA1*02, DQBl*02, DPBl*1701 were also significantly increased in Korean psoriasis patients. Type I and type II psoriasis were subdivided into groups of below and above 30 years of age, because of the significant difference found in HLA-Cw*0602 phenotype frequency between the two groups. The prevalence of psoriatic arthritis in Korean psoriasis patients was 9%. Psoriasis preceded arthritis in 68.5% with a mean interval of 12.5 years. Clinical features of arthritis of Korean patients showed some difference from other reports from western country. Spondylitis was the most common pattern of psoriatic arthritis.

Psoriasis in Kuwait, epidemiology and management

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Psoriasis is a common and chronic recurrent disease affecting about 1.5–3% of the population worldwide. About 10–20% have moderate to severe disease that require active intervention. Several studies describing clinical-epidemiological features of psoriasis are available in the literature. However, this information is limited in Arab population. In January 2000 we have started a psoriasis clinic in As’ad Al-Hamad Dermatology Center, Kuwait. Over a span of 6 years we have provided special care to patients with moderate to severe psoriasis. When we established this clinic our aim was to study the clinic-epidemiological features of moderate to severe psoriasis in our region to build a baseline data, and to use these observations in our plans regarding the treatment modalities and research work. In this presentation, we will highlight the clinic-epidemiological findings of psoriasis in our area and present the different treatment modalities used in this specialized clinic and comment on the outcome of these treatments.

Psoriasis in France and Tunisia: a comparative epidemiological data

N. Doss
Tunisia

We have had the opportunity to be a part in a study conducted in Paris as well as in Tunis about psoriasis. This study was conducted over a six months period in 2005. As you can guess we will focus on psoriasis in Tunisia. From 1493 patients, 140 of them were Tunisian. The epidemiological data of our material are:

- The age of one third of our patients is between 30–40 years (in the military hospital we don’t see only the militarys but also their families and the other civilian patients).
- Sixty-nine percent of patients were male.
- About the prevalence of psoriasis and skin type, the study showed us that the majority of patients had skin type IV and V, which seems normal. It is the skin type of the majority of our patients.

We tried to have an idea about the precipitating or trigger factors of the disease:

- Twenty percent of patients had at least one of relative who had psoriasis.
- In one third of cases we found an association with a symptomatology of atopy (cutaneous and/or respiratory).
- The emotional stress was advocated as a provocative factor in 60% of cases.
Risk factors, which have been documented in epidemiological studies include smoking, alcohol consumption, diet, infection, drugs and stressful life events. In our study smoking seems to be evident as a risk factor.

The clinical aspects:

- The severe forms were rare.
- Plaques of psoriasis tend to persist and may be confined to sites such as elbows and knees. If plaques are widespread, they may enlarge slowly become confluent and eventuate in erythroderma.
- The pustular forms are especially on palms and soles. It is exciting to have an idea about the influence of sun and sea on the course of psoriasis.

It is largely accepted that sun and sea have a positive impact on the course of psoriasis; however, in our study, this fact is proven only by one third of cases which is pity for our patients because we are a sunny country with about 1000 km of beautiful coasts but we should mention that not all the patients benefit from the sunny environment because of their believe they cannot enjoy the sun bath.

Our colleagues in Turkey developed a quality of life instrument for patients with psoriasis which is suitable for Islamic populations (especially the behaviours about sun exposure).

In young patients, we have to decide about their ability for the army duty.

The impact of psoriasis on quality of life is evident.

- The prevalence of psoriasis in Tunisia is relatively high in the general population ranging between 2 and 4%.
- For the treatment, we know that BSA% and PASI provide valuable guidance, but it is also clear that they are not sufficient by themselves to explain treatment choice.
- Biologicals are not still available in Tunisia and we should discuss their efficacy for our patients.
- We have to develop climatotherapy in our countries because this kind of treatment might be of a great help for our patients.

W27
Up-date for routine systemic treatment of psoriasis by mixture of fumaric acid derivatives
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History: Already in antiquity the beneficial efficacy of Fumararia officinalis was known in skin diseases. In 1959 the chemist Walter Schweckendiek described the successful self-treatment of his own psoriasis by fumarates. In the following three decades fumaric acid derivatives were used in a rather unregulated manner. In 1995 a mixture of dimethylfumarate and the calcium, magnesium and zinc salts of monoethylfumarate was approved in Germany for the treatment of plaque psoriasis. Mode of Application: During the initiation of fumarate treatment the dosage has to be individually titrated with respect to possible adverse symptoms (gastrointestinal complaints, flushing) and efficacy. A first substantial treatment effect may be expected after 6 weeks of treatment. A response rate in terms of PASI-75 is estimated to be reached by 50 to 70% of the patients at the end of the induction phase after 16 weeks. Recommended control laboratory parameters are serum-creatinine, liver parameters (ALAT, -GT, bilirubin), differential blood cell count and urine status with respect to the following possible adverse reactions: lymphopenia (occurring frequently), eosinophilia and proteinuria (occasionally), and impairment of liver function (rarely). Essential contraindications are: chronic or severe diseases of the GIT, kidneys and leukocyto-poiesis/-function, malignancies, pregnancy and nursing. Evaluation of the drugs position: Fumarate mixture is considered to represent a conventional, i.e. non-biologic first line systemic treatment for psoriasis cases with an intermediate to severe degree of disease activity, also in a long term setting. The drugs use in combination with all approved topical antipsoriatics (especially vitamin D derivatives) is possible and reasonable. Perspectives: Based upon the knowledge of the molecular mode of the drugs action, with dimethylfumarate as the presumptive most active component, the future development of a mono-compound treatment has been envisioned.

W28
Retinoids in psoriasis
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Retinoids are a mainstay in the treatment of psoriatic patients. Currently, acitretin is the most oral retinoid used for chronic plaque like psoriasis in combination with UVB, 311 nm, solephototherapy and oral or bath PUVA. It is easy to combine with additional topical applications of dithranol and/or vitamin D derivatives. The use of acitretin or of isotretinoin for pustular psoriasis has been shrinked since the availability of cyclosporin and new biologicals. Combinations of acitretin with methotrexate, with cyclosporin or with fumaric acid in very severe cases are often accompanied by increased adverse effects due to liver and kidney toxicity. Tazarotene for the topical treatment in psoriasis is less often used as it could be. Due to a higher irritation potential practitioners more often use vitamin D derivatives or corticosteroids. However, tazarotene is a very useful topical agent for mild psoriasis. If new retinoids such as rambazol may have a future in psoriasis is still arbitrary.

W 31
A paradigm for the systemic treatment of plaque psoriasis
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Clinical guidelines are prominent in medical practice. Many practice guidelines have recently been published for the treatment of plaque psoriasis. They provide useful information on how the different treatments should be applied. Unfortunately, most of them do not give instructions on the sequence in which these treatments should be prescribed. In the light of recent publications proposing algorithms and clinician’s paradigm in the treatment of psoriasis, three key questions are discussed: how to evaluate psoriasis severity? Which treatment should be applied in order of preference? And how to make the therapeutic decision? There is almost an agreement that each patient requires an individualized treatment plan and that the decision to undertake systemic treatment and the choice of specific treatment plan must ultimately be made mutually by the patient and the physician.

W 32
Systemic treatment of psoriasis – an Indian perspective
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Psoriasis is a common chronic, inflammatory skin disorder and is associated with significant cosmetic, physical and psychosocial morbidities. It has a worldwide prevalence of 1–3%. Though the exact prevalence in India is not known, it constitutes 1–3% of patients in the hospitals. Although various topical therapies are available, psoriasis requires systemic therapy when the response to topical therapy is not there, when it is extensive and involves more than 20% body surface area, when it is in erythroderma, when pustular psoriasis is present, in disabling palmoplantar psoriasis and in psoriatic arthritis. Various systemic therapies available and tried sufficiently well in India include methotrexate, hydroxyurea,
W 33
Rifampicin as treatment strategy for psoriasis: benefits and risks
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Background: Psoriasis is considered as the most prevalent T-cell-mediated inflammatory disease in humans. Recently new data for the immunosuppressive properties of Rp appeared in the literature.

Objectives: We suggest that rifampicin acts as a mild immunosuppressant and it could be used in psoriasis as an effective and safe treatment modality.

Methods: We present 69 patients, 40 of them with eruptive psoriasis and 20 of them with plaque psoriasis. The patients with eruptive psoriasis were divided into two groups according to the evidence of a concomitant streptococcal infection. Rp was administered orally in daily dose of 600 mg for at least 60 days for all patients. Only emollients were used for topical therapy. In 10 patients we used rifampicin for 6 months in the same daily dosage of 600 mg. Patients were assessed two times monthly and PASI was calculated at baseline and on the 60th day. The usual t-test for two independent groups is used to compare the difference of the factor level. The non-parametric U-test of Mann–Whitney was also used to compare the effectiveness of rifampicin in the two groups of eruptive psoriasis.

Results: In group A, the group of eruptive psoriasis with evidence of concomitant streptococcal infection, the mean PASI decreased from 7.75 at the beginning of the therapy to 2.57 on the 60th day. In group B, the group of eruptive psoriasis with no evidence of concomitant streptococcal infection the mean PASI decreased from 9.13 at baseline to 2.96 at the end of the therapy. After the statistical analyses of the obtained results it could be suggested that the improvement in group A and group B is statistically identical (P < 0.001). 50% of the patients with plaque psoriasis reached PASI 50 on the 60th day of treatment and 10% of the patients reached PASI 75. None of the patient from the 6-month rifampicin therapy group suffered any exacerbation of the disease during the 6-month intake of the drug.

Conclusion: We state that Rp could be a cheap alternative to the new biologic agents with mild immunosuppressive properties.

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W 34
Do’s and don’t’s in combination of systemic and phototherapy
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The application of an effective and safe phototherapy for psoriasis requires thorough knowledge of skin- and photophysiology. Interactions of UV-light and systemic non-antipsoriatic or antipsoriatic drugs may lead to dangerous pitfalls for both patients and physicians. There are relevant differences regarding potential interactions according to the disposed UV-spectrum. Numerous potentially phototoxic drugs may induce phototoxicity mainly within the UVA-spectrum. Thus, narrow-band UVB phototherapy may be a treatment option even in patients taking certain phototoxic drugs. MED or MPD-testing may be required in situations with an unclear risk of phototoxicity. On the contrary, certain systemic drugs may increase the efficacy and outcome of phototherapy for psoriasis. This presentation will point out risky and beneficial combinations. An overview of the literature and selected case reports will be accomplished by personal experiences. As future prospects, the UV-safety of biologics will be discussed briefly.

While the combination of cyclosporine and phototherapy is clearly contraindicated, the combination of other immunosuppressive/immunomodulating substances with phototherapy is still a matter of debate. It would not be surprising if combining biologics with phototherapy would increase the efficacy each of these treatment modalities have by themselves. Evaluation of the long term risk regarding the development of malignant skin tumours, however, will probably require the analysis of large numbers of exposed patients over many years.

W 35
Phototherapy of psoriasis in dark skin
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Ultraviolet light has been the most used and effective treatment of psoriasis over the centuries. Psoralen photochemotherapy (PUVA) was introduced around 1974 and its beneficial effects were rapidly confirmed worldwide. In an attempt to minimize its long term side effects and better tolerance, narrow-band ultraviolet B (NBUVB) was introduced. However, the advantage of NBUVB diminishes when compared to PUVA. There are several factors to be considered when comparing the two therapies including efficacy, side effects, remission rates and ease of administration. Few initial studies showed that both are equally effective and more patients preferred NBUVB. However, looking more closely at data revealed that PUVA is actually more effective for resistant lesions and to induce longer remission rate.

In Indian patients with psoriasis, phototherapy has been found to be less effective as compared to studies published on lighter skin. Moreover we found both PUVA and NBUVB to be equally effective in clearing psoriasis lesions and there was no statistically significant difference between relapse rates after stopping the therapy. Many reports confirm that sensitivity to NBUVB or UVA is dependent upon pre-exposure pigmentation level and skin type. It might be possible that patients with high skin type photoclassification may adapt faster thus requiring higher doses. Many studies that looked into photoadaptation, have limit in their application to patient care, as they did not look at phototype V and VI and thus we have very little information to guide our treatment in this population.
W 36
Optimising narrow-band UVB
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Current guidelines suggest that narrow-band UVB (NBUVB) phototherapy, although slightly less effective than PUVA therapy, may be considered as the first-line phototherapy option due to the safety and convenience of avoiding psoralen therapy. In addition, narrow-band UVB has also been proposed as the best option in the management of moderate to severe psoriasis when evaluating cost-effectiveness, with approximately 63–80% of all treated patients achieving clearance. However, in the era of biological therapy, in spite of its brilliant curriculum resulting from more than 15 years of increasing use in Europe and USA, NBUVB appears to be considered in some forums as an old-fashioned resource in the management of psoriasis. Thus, its main drawbacks, to be a time consuming approach and the risk of skin cancer and skin aging, seems to cause a more severe impact in dermatologists choice that they had a decade ago.

When dealing with the first item, the development of home phototherapy with NBUVB increases the convenience for the patient with a similar efficacy and safety as hospital phototherapy. On the other hand, combination strategies of NBUVB with topical and systemic conventional therapy may reduce cumulative doses required to achieve clearance, optimising the final long-term outcome of these patients. Also NBUVB has been demonstrated as a safe and successful option when combined with different biologics – etanercept, efalizumab and alefacept as well as a very useful alternative in controlling some exacerbations occurring during efalizumab therapy without discontinuing the biologic agent. Due to its mechanism of action in absence of systemic immunosupression, NBUVB emerges as a first choice in combination with these new drugs.

Despite of its extensive use, efforts to adapt the phototherapy courses to the characteristics of every patient may still play a role in optimising efficacy and safety results in NBUVB. In this sense, experiences coming from comprehensive, multicenter and multidisciplinary network services, as is the case of PHOTONET in Scotland may be very useful in improving and standardizing quality patient care. In the near future, technical improvements and advances in photobiology may favour the development of new devices allowing more effective, faster and safer phototherapy options of psoriasis.

W 37
Narrowband UV-B (TL-01) phototherapy vs. oral 8-methoxypsoralen psoralen-UV-A for the treatment of chronic plaque psoriasis
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The objective of this open, randomised, controlled study was to compare the efficacy of narrowband UV-B (TL-01) phototherapy with oral 8-methoxypsoralen photochemotherapy (PUVA) in patients with chronic plaque psoriasis (CPP).

Fifty-four patients were included. They received whole-body, threshold erythemogenic doses of either 3-times weekly TL-01 or twice-weekly oral 8-MOP PUVA, based on minimal erythema or phototoxic doses. Patients were treated until completely clear. Outcome measures included number of treatments (exposures) to clear, number of days in treatment, number of days in treatment, number of days in remission, and adverse effects of both treatments were assessed.

Forty-five patients completed the study. Those in the PUVA group required significantly fewer treatments to clear (p = 0.03). There was no significant difference in the number of days to clear or number of days in remission. A similar percentage of patients in the TL-01 and PUVA groups developed minimal perceptible erythema, showing that the regimens were equally erythemogenic. Asymptomatic, well-defined erythema occurred only in the PUVA group. Pruritus and polymorphic light eruption occurred equally in both groups, but only patients in the PUVA group developed nausea.

In conclusion, narrowband UV-B phototherapy, used three times weekly, is as effective for the treatment of CPP as oral 8-MOP PUVA used twice weekly.

W 40
Methotrexate in psoriasis
Yves Poulin
Canada

Methotrexate is a well known chemotherapeutic drug against psoriasis, being used by dermatologists since 1968. Methotrexate remains the most widely prescribed systemic drug to treat psoriasis in 2007. It is cost effective. Short-term and long-term side effects are predictable. Methotrexate is the established gold standard for comparative trials. Results from available comparative trials (cyclosporine and adalimumab) will be presented. We will review the mechanism of action, indications, contraindications, risks in fertile women and men, main adverse effects, the different ways of weekly administration (PO, PO divided doses, SC, IM), weekly dosing, and concomitant use with UV light, acitretin, cyclosporin and biotherapeutic agents. Published guidelines and standards of practice will also be briefly reviewed.

Monitoring tools, including regular dosing of serum aminoterminal propeptide of type III procollagen and the need for serial liver biopsies will be discussed. Considerations will be made on the risks/costs of liver biopsies. The concomitant need for oral folic acid or leucovorin rescue will be presented. The combined experience obtained from experience in rheumatology and dermatology will be looked upon for the best use of methotrexate in 2007. The presentation will focus on the ideal patient for methotrexate treatment and is aiming to be highly practical for the clinician.

W 41
Hydroxyurea and azathioprine in psoriasis
Lyn Guenther
Canada

Despite the development of biologic therapy, management of patients with extensive psoriasis vulgaris is often a challenge. Affordability, availability, contraindications and adverse effects may preclude use of biologic agents, methotrexate, cyclosporine, acitretin and phototherapy. In such cases, hydroxyurea and azathioprine should be considered even though they appear to be less potent agents and large double-blind studies are lacking.

Hydroxyurea has been used for over 40 years to treat myeloproliferative disorders and sickle cell anemia. It inhibits ribonucleotide reductase, the rate-limiting step in DNA synthesis. In psoriasis, it slows down epidermal proliferation and inhibits vascular proliferation and reduces the number of intraepidermal neutrophils. In an open-label study of 85 psoriatics, 61% were clear or almost clear. In another study, 17/31 patients had a 70–90% reduction in PASI at 11 weeks. Dosing is usually 500 mg 2–3 times/day. Reversible bone marrow suppression is common with this medication and often limits its use. Leukopenia typically occurs first. Megaloblastic anemia is common, but does not usually require treatment. Close patient supervision and laboratory monitoring (weekly for the first month, then monthly) are required. Cutaneous adverse events are common and include pigmentation of nails, skin and mucosa, xerosis, diffuse alopecia,
Alternative therapy for psoriasis in China: traditional Chinese medicine and acupuncture

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Traditional Chinese medicine (TCM) is an ancient health care system that involves many different practices employed by practitioners who have often inherited the skills from family predecessors or learned from clinical practice. Psoriasis is a chronic inflammatory skin disease. In China, there are about 1500 years in investigation of therapy for psoriasis using traditional Chinese herbal medicine and acupuncture, which was first recorded by Yuan-Fang Cao in his book of Zhu Bing Yuan Hou Lun (general treatise on causes and manifestations of all diseases). Psoriasis vulgaris is divided into four types in Chinese medicine, including blood heat pattern, blood vacuity pattern, blood dryness pattern, blood stasis pattern. Psoriasis pustulosis is defined as purulent toxin pattern, psoriasis erythema as toxic heat pattern, and psoriasis arthritis as cold damp pattern or wind-damp impediment-obstruction pattern. Therefore, the therapy is accordingly divided into heat-clearing blood-cooling, and blood-quicken formula, and nourishing the blood and moistening the skin, quicken the blood and dissipate wind formula. The common used herbs include sophorae, puccoon root, paonaeia rubra, falam grass rhizome, rehmannia dride rhizome, rehmannia dride rhizome, salvia miltiorrhiza and caulis spatholobi, or, glabrous greenbrier rhizome, angelica sinensis radix, Chinese Clematis root, Chinese Yam, honeycomb of paper wasps. Some of these make the skin more sensitive to ultraviolet light and are combined with traditional phototherapy. Other preparations concentrate on detoxifying the body and providing a balance of essential phyto-nutrients which are often lacking in the diet. These formulations can be very effective at treating psoriasis. However, Chinese medicine determines the treatment based on differentiation of individual’s symptoms and signs. A wide selection of different herbs and extracts combined in unique and specific formulations are administered for each individual patient. Herbs must be added or deleted according to the patient’s symptoms, signs and general conditions.

Acupuncture is a technique involving the manipulation of needles placed in the body. Needles are placed at specific 'meridians' or acupoints to relieve pain and treat disease. Till now, more than 1000 cases had been reported to be successfully treated by acupuncture. The selective acupoint is mainly at Yang meridians, such as the Urinary Bladder Channel of Foot-Taiyang and Shu-acupoint in the back. The main point include Connected Valleys (Hegu), Crossroad of Three Yins (Sanjinyiao), Blood Sea (Xuehai), Bent Pond (Quchi), Lung Shui (Feishu), Diaphragm Shu (Geshu), Zusani, Baihui and Yanglingquan. The other methods, such as, bleeding meridians, triangle-edged needle fast insertion, incising ear acupoint, injection ad acumen and catgut implantation at acupoint, are effective and little side effects. The advantages of acupuncture are little side effects and low recurrence rate. However, no multicenter, random, open, control and large sample studies was reported in past studies of acupuncture on the treatment of psoriasis. In conclusion, selective combination of traditional Chinese herbal medicine and acupuncture with modern medicine are very helpful in the treatment of psoriasis in China.

Climate therapy – the role of patient education

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The aim of this presentation is to highlight the importance of patient education in psoriasis treatment and to present an example of a patient education program that could be implemented in climate therapy. Patients with psoriasis have to cope with their disease for many years or even throughout their entire life. Climate therapy is supplemental for patients who require hospitalisation and frequent intensive outpatient care, and may also be part of a sequential or tailored regimen in many patients. The goals of psoriasis treatment are to gain control of the disease process, achieve and maintain long-term remission, minimize adverse events, and improve patient quality of life. Patient education may be a valuable tool in achievement of these goals.

Research shows that psychological factors are much stronger determinants of disability in patients with psoriasis than disease severity, location or duration. This has important implications in relation to the clinical management of psoriasis. In addition, psoriasis does not necessarily impact upon psychological distress, on patients' beliefs about psoriasis or on coping. This observation highlights the complex features of patients' psychological experience of psoriasis, and calls for integration of psychosocial interventions and patient education into standard care protocols. Patients' knowledge about psoriasis can have a large influence on the severity of their disease and its psychological impact.

Coping with chronic diseases, such as psoriasis, include optimal knowledge to make decisions, control, recourses and experience to judge the effectiveness of actions. Patient education is closely linked to learning processes related to coping, and it develops through certain levels, including the persons' behaviour, attitudes, feelings and thoughts. The first level is experience. The second level is reflection. Reflection means that experiences are reconsidered. The third level is insight, and the last level is change. Learning is change and thereby an ongoing process that lead to the perception of control. In this perspective the relationship between health care provider and the patient is based on shared expertise. The health care provider is a recourse who helps the patient to set goals and to develop a plan for disease management. A potential patient education program for psoriasis based on the abovementioned assumptions may focus on the following components: the patients' beliefs in their capacities to read and treat symptoms, to cope with feelings and emotional reactions, and to stay active in daily life.
The concerns of patients, often expressed through a quality of life focus, can be incorporated into patient management strategies. Insufficient knowledge among psoriasis patients can represent a barrier to participation in decision-making. Patient participation in treatment decisions can have positive effects on patient satisfaction, compliance and health outcomes. Patient education can increase adherence to a plan of care and to successful long-term management of their chronic skin condition.

**W 45**

**Serum D-vitamin concentration after sun – and UVB exposure in psoriasis patients**

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Sweden

Vitamin D₃, or cholecalciferol, is produced in the basal epidermis by ultraviolet radiation (290–315 nm) of 7-dehydrocholesterol and is then hydroxylated in the liver into 25-hydroxyvitamin D [25(OH)D], which is the major circulating metabolite. Further hydroxylation into 1,25-dihydroxyvitamin D [1,25(OH)₂D] occurs primarily in the kidneys. Hydroxylation in the kidneys is stimulated by PTH and suppressed by phosphate. Homeostatic mechanisms include parathyroid activity, serum calcium and serum 1,25(OH)₂D itself. Vitamin D is an essential steroid for calcium homeostasis and skeletal health. Vitamin D deficiency leads to secondary hyperparathyroidism, increased bone turnover and bone loss. In addition to the calcitropic effect vitamin D seems to protect against different types of cancer and autoimmune disease. A wealth of evidence suggests that insufficient vitamin D status might cause a wide variety of chronic diseases including several types of cancer.

UVB and sun exposure are the strongest factors influencing 25(OH)D₃. In contrast to the per oral intake of vitamin D it is not possible to ‘overdose’ this vitamin by sun exposure. The explanation is the auto regulation of the skin synthesis, storage, and slow, steady release of vitamin D₃ from the skin into the circulation.

The same wavelength of the UVB spectrum (290–315 nm) that is responsible for vitamin D synthesis in the skin improves psoriasis lesions and has therefore been used in psoriasis therapy. Psoriasis usually deteriorate during the winter period and many patients are therefore given repeated UVB treatment during the darker period of year when we have lack of UVB in northern countries and therefore lower levels of vitamin D. It is well known that UVB induces synthesis of vitamin D in the normal skin but information about vitamin D synthesis during UVB therapy in patients with psoriasis is sparse. In the last two decades narrow band UVB, has been increasingly used as a replacement for the broad band UVB in the treatment of psoriasis. It is alleged that vitamin D cannot be produced by the waves >315 nm and we lack knowledge about the ability of narrow band UVB (311–312 nm) to influence on vitamin D synthesis during the treatment of the disease. Therefore, the aim of a series of studies we performed was to investigate vitamin D synthesis in different groups of psoriasis patients treated with broadband UVB, narrow band UVB and climate therapy. The results showed that psoriasis patients had a higher D vitamin status than healthy individuals from the same region, probably due to their repeated broad or narrow band UVB treatment or climate therapy during the winter period.

Broadband UVB therapy in elderly psoriatic women improved psoriasis, increased serum 25(OH)D₃ synthesis and reduced serum PTH concentrations and their bone mass density (BMD) was enhanced compared to age matched women from the same region. In addition to ameliorate the psoriasis lesions, the UVB therapy increases serum concentrations of 25(OH)D₃ and have positive effect on bone status. These positive effects of the UVB treatment should be taken into account when choosing the treatment option for patients with psoriasis.

**W 47**

**The experience in treating psoriasis by climatotherapy at the Dead Sea**

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The beneficial effect of Dead Sea climatotherapy (DSC) in the treatment of psoriasis has been well documented in many publications and oral presentations. In psoriasis, DSC for 4 weeks leads to a complete or almost complete remission in 80% of the patients. The reported mean duration of remission is between 3.3 and 6 months. Histologic examination of psoriatic skin after DSC has revealed normalization of the characteristic pathologic changes found in active lesions. Also, immunologic studies have shown a major reversal in immunologic activation.

In general, the daily treatment protocol includes a short immersion in the Dead Sea water followed by sun exposure of 3–4 h divided into morning and afternoon sessions. Continuous UV measurements at the DS have shown that the shorter UV rays are more attenuated compared to the long rays of UV. Also, as the time of sun exposure was distanced from solar noon the ratio of UVB radiation intensities at 305 and 312 nm (the ratio of the wavelength range of the erythema radiation to that for the therapeutic radiation) decreased significantly. The actual amount of energy to which the individual’s body is exposed at the DS is about one third of the amount applied with artificial phototherapy.

The short-term side effects of DSC are minor and easily managed. However, the main deleterious effects of repeated treatments at the DS are long-term hazards such as photodamage and skin cancer. In a multicenter, controlled cross-sectional study on 460 Israeli psoriatic patients – solar elastosis, solar lentigines, poikiloderma, and facial wrinkles were significantly more common among patients compared to a control group.

The prevalence of non-melanoma skin cancer did not differ between the two groups. No cases of melanoma were detected. In summary, DSC is highly effective in the treatment of psoriasis in Israel. It is a remittive therapy leading to a reversal of immunological abnormalities in psoriatic lesions. DSC is not associated with an increased risk of skin cancer, however, repeated UV exposure at the Dead Sea may play a role in the development of solar damage.

**W 50**

**The ideal positioning of biologics in the treatment of psoriasis**

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The biologics currently available for the treatment of psoriasis have completely modified our perspectives on the pathogenesis of the disease and therapeutic strategies. The cumulative organ-targeted toxicities of the traditional systemic therapies justified the rotational or cyclic approach to therapy. For many patients, no effective therapy was available due to lack of efficacy or expected adverse effects, comorbidities, contraindications or unavailability of the traditional systemic treatments, and the biologicals were initially approved in order to fulfill that need. Nevertheless, if economic factors had not to be taken into consideration, biologicals should be included among first choice therapeutic options, and would be suitable to combination and rotation with other drugs and therapeutic modalities in clinical practice.

Given their favorable adverse effect profile and their selective mechanism of action, biologicals are ideally suited for long-term maintenance treatment, which would be the logical option if the target organ of inflammation in psoriasis became permanently and progressively injured, as is the case in inflammatory bowel disease or arthritis. Nevertheless, in psoriasis there is no available test that allows the clinician to distinguish between...
drug-induced suppression of the disease or its natural variation in activity, which might be inferred according to the previous evolution in a given patient. Even though there are no comparative trials available, differences among biologics have become widely appreciated, not only regarding the percentages of patients attaining PASI50 response in clinical trials, but also with regards to their suitability for different types of patients or different instances of psoriasis activity. While future guidelines will be probably based on pharmacogenetic data, there are some clinical profiles which contribute to the optimal therapeutic decision.

Efalizumab is probably best suited for patients without arthritis, whose psoriasis is not very inflammatory or prone to rapid relapse on discontinuation of treatment, and rather stable in intensity. In about one third of patients, efalizumab will provide a not very rapid but steady long-lasting improvement. Even though not associated with the adverse event profile of the TNF blockers, the risk of transient exacerbations, relapses and rebounds following discontinuation of efalizumab, especially in less than ideal responders, are rather demanding from the point of view of clinical management. Etanercept is rather predictable in terms of response, but relapses on discontinuation in daily practice tend to occur earlier than described in clinical trials, and the psychological effect on responders who might have become blanched is devastating. Thus, the FDA label would seem more suited to the patients’ needs than the EMEA label, requiring intermittent treatment and discontinuation of the drug at 24 weeks, when it usually attains its plateau of efficacy in 45 to about 50% of patients.

Some patients may require dose escalation, and pharmacokinetic data support the use of the 50 mg weekly dose as the most convenient from the patient’s perspective. Infliximab is the most rapidly effective biologic, with more than 80% of patients attaining PASI50 response at week 10. It is especially suited for those patients who used to require high dose ciclosporin or present with inflammatory psoriasis, rebounds or other situations where rapid control of the activity of the disease is required. Adequate screening and chemoprophylaxis do reduce the risk of reactivation of tuberculosis and other granulomatous infections in countries with high prevalence. The main drawback of infliximab is eventual loss of efficacy in a significant percentage of patients following long-term treatment, and loss of response rate on repeated cycles. Combination with low doses of methotrexate or other immunosuppressants aimed to reduce the immunogenicity of the drug might contribute to circumvent this limitation. Planning treatment with a long-term perspective, in agreement with the patient’s needs as regards a life-long disease, is of paramount importance. Future developments, such as DNA chips, will probably contribute to improve our selection of patients and drugs, and new biologics which are about to be approved, such as adalimumab, or look very promising, such as certolizumab or CNTO-1275, will make the treatment of psoriasis more demanding, but also more satisfactory for both physicians and patients.

W 51
Cautions and the problematic sides of biologics
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Five biologic therapies, alefacept, efalizumab, etanercept, infliximab, and adalimumab, are used to treat psoriasis. The further efficacy compared to the existing treatment for patients with general plaque type psoriasis, with generalized pustular psoriasis and psoriasis arthritis which does not respond favorably to the existing treatments, is reported. Therefore, these biologics are expected to play an important role in psoriasis therapy in the future. The merits of these biologic agents are greater effectiveness and long remission period compared to existing therapies, and fewer adverse reactions regarding hepatic and renal toxicity. At present, agents such as cyclosporine, methotrexate, and retinoid, are systemically adminis-
years, anticytokine therapies have produced therapeutic breakthroughs in conditions such as psoriasis, rheumatoid arthritis and Crohn’s disease, a group of diseases known as IMIDs. Several reports demonstrated an association between several inflammatory conditions such as arthritis, metabolic syndrome, cardiovascular disorders, inflammatory bowel disease and psoriasis.

It is possible to distinguish comorbidities from associated diseases in psoriasis. Comorbidities refers to diseases related to a basic pathological mechanism; in psoriasis they will be psoriatic arthritis, Crohn’s disease and pustular psoriasis. The associated diseases could be due to the chronicity and severity of chronic plaque psoriasis. In fact, there are several studies demonstrating the increased incidence of cardiovascular disorders, diabetes, obesity and hypertension in hospitalized or severe psoriasis patents. An Israeli study showed an association between psoriasis and atherosclerosis and psoriasis and diabetes despite the severity of the skin disorder: atherosclerosis and the use of phototherapy and diabetes and the multiple use of very potent topical steroids.

In Spain we are undertaking an epidemiological study about comorbidities and common clinical expression in spondyloarthritis, chronic bowel disease and psoriasis by a collaboration between physicians in the three different specialities.

W 55
An overview of extracutaneous side effects related to systemic therapies in psoriasis
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Many local and systemic treatments are suggested for psoriasis. Patients with severe disease often require systemic treatment, which cannot be controlled with other measures. All systemic drugs for psoriasis have potential serious side effects, so they should be limited to severe disease. Side effects can be classified in four categories: acute, chronic reversible, cumulative non reversible side effects and side effects due to comorbidities and/or drug interactions.

Systemic agents include acitretin, methotrexate, cyclosporine and biologics. All systemic administered drugs have possible side effects: acitretin (hair loss, cracking of the lips, dry skin, gum bleeding, skin peeling, depression, headache, joint pain, rise in serum lipids and teratogenicity); methotrexate (nausea, fatigue, difficulty sleeping, lightheadedness, mouth and gastrointestinal ulcers, vomiting, headache, easy bruising and bleeding, fever, diarrhea, hepatotoxicity and suppression of the bone marrow); cyclosporine (nephrotoxicity, hypertension, headache, high cholesterol, excessive hair growth, tingling or burning sensations in the arms or legs, skin sensitivity, increased growth of gum tissue, flu-like symptoms, upset stomach, fatigue, and pain in muscles or joints). Biologic agents can increase the risk of infections, especially respiratory infections and have the potential to trigger a latent tuberculosis infection, may also produce flu-like symptoms and allergic reactions. The four biologic agents that have been approved for use in psoriasis or psoriatic arthritis are infliximab, etanercept, alefacept and efalizumab. Possible side effects of biologics are as follows: infliximab (infusion reactions and reactivation of tuberculosis), etanercept (reactions at the site of injection, aplastic anemia, demyelinating diseases and tuberculosis), alefacept (headache, itching, sore throat, dizziness, nausea, and muscle aches), efalizumab (headache, nausea, vomiting, fever, myalgia). As biologic therapy is in its early stages, some of the long-term effects of these medications are not known.

Systemic treatment should be considered by the dermatologist and monitored carefully with other medical disciplines. Any approach to the treatment of this disease must be considered for the long-term. Treatment regimens must be individualized according to age, sex, occupation, personal motivation, other health conditions, and available resources. During any systemic treatment of psoriasis, regular monitoring of the patient is necessary.

W 56
Rheumatological manifestations in patients receiving biologicals for severe psoriasis
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Biologics represent a major therapeutic advance for patients affected with severe forms of psoriasis. Among these new agents, TNF α inhibitors show efficacy on both cutaneous lesions and on psoriatic arthritis (PsA), while efalizumab, a T-cell-targeted recombinant human monoclonal antibody, has been recently reported to be ineffective for the treatment of PsA in a double-blind placebo-controlled study (1).

We recently observed the onset of PsA in 10 patients receiving efalizumab for plaque-type, severe psoriasis. The median duration of psoriasis in these patients was 11.5 years, without any history of PsA. The median delay between the onset of efalizumab and the onset of PsA was 17 weeks (range: 1–28 weeks). Typical synovitis and enthesis could be observed, together with axial, spine involvement to a lesser extent. PsA was severe in most cases, leading to interruption of efalizumab, which was followed by a striking improvement of rheumatologic symptoms. In one case, retreatment with efalizumab was followed by PsA relapse, supporting causal involvement of this latter biologic compound in the onset of arthritis.

On the other hand, a wide range of clinical symptoms have been reported in patients receiving TNFα-blocking agents, including lupus or lupus-like syndromes with systemic manifestations, mostly polyarthritis. In a series of 28 cutaneous psoriasis patients treated with infliximab, incidence of biological autoimmunity was high, as detection of antinuclear antibodies and of antidual-standed-DNA antibodies (anti-dsDNA-ab) was observed in nearly 70% of patients after 22 weeks of treatment (2). Anti-dsDNA-ab were mostly of the IgM subtype, and rarely of the IgG subtype. Three patients developed nonerosive polyarthritis (2).

TNF α antagonists administration is also associated with an increased risk of serious bacterial infections, including septic arthritis. In studies conducted in rheumatoid arthritis patients, the incidence of bone and joint bacterial infection was estimated to be 7/1000 person-years (3). Up to now, this latter risk is unknown in dermatology patients, but infectious aetiology ought to be systematically investigated when confronted with de novo isolated synovitis in any psoriatic patient receiving anti-TNFα agents.

Thus, the onset of rheumatological symptoms in patients treated with biologicals for psoriasis has not any univocal significancy, and should be carefully interpreted in the context of each given biologic treatment, taking into account recently reported syndromes for an optimal management.

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W 58
Alcoholism and psoriasis
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The association between alcohol and the development of plaque-type psoriasis is complex. Many of the initial studies did not control for confounding factors such as drug therapy obesity diabetes or tobacco use. This review encompasses a literature review of the epidemiologic, case-controlled, and clinical studies that examined the relationship between alcohol and plaque-type psoriasis. Early studies showed no correlation
between alcohol consumption and plaque-type psoriasis. However, controlling for confounding factors, uncovered a significant correlation between alcohol use and psoriasis. Some studies suggested a relative risk factor of 8.01, particularly in men. Most studies did not document an increased risk for plaque-type psoriasis in women who drank alcohol. Specific patterns of psoriasis may be recognised in patients with alcoholism. Alcoholism also predisposes to hypertension, obesity and depression. Alcoholics frequently smoke thus co-factors frequently co-exist which contribute to severe psoriasis in alcoholism. Even intermittent excessive alcohol intake may contribute to psoriatic flares. Psoriasis should be encouraged to keep alcohol intake modest.

W60
Do males have more severe psoriasis than females?
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Psoriasis is a chronic inflammatory disease that occurs equally in men and women. It is precipitated and exacerbated by many factors including infection, drugs, alcohol and stress and is genetically predetermined. The observation that a preponderance of males attended our psoriasis systemic treatment clinic led us to question if males suffer from more severe psoriasis than females.

To investigate this we looked at the gender difference of 471 patients (262 male and 209 female) with psoriasis attending for various treatment modalities in our department over a six-month period. There was an age range of 16–84 years.

Patients were divided into three groups. The first were those receiving systemic treatment, ranging from methotrexate to biologics. Of the 146 patients 93 were male and 53 were female. The second group comprised those attending the day care unit, including patients receiving phototherapy (NB UVB and PUVA) and short contact dithranol. Of the 138 patients receiving NB UVB, 74 were male and 64 were female, with a ratio of 1.2 : 1 whilst of the 71 patients receiving PUVA, 42 were male and 29 were female, with a ratio of 1.6 : 1. Thirty two patients received short contact dithranol treatment with an equal number of males and females. The third group were those on the 5 day ward. There were 84 patients, 37 male and 47 female, with a ratio of 0.8 : 1.

Patients receiving systemic treatment suffered from severe disease and in this group males outnumbered females by 1.8:1 (p = 0.0001). There was also a preponderance of males in those receiving phototherapy and this was greater for PUVA than for NB UVB. We attributed this to PUVA treatment being reserved for those with more severe psoriasis. Patients attending for short contact dithranol had less severe disease and here the sex incidence was equal. It was interesting that, of the in-patients there was a preponderance of females although we would have expected this to be equal as in the case of the short contact group.

To our knowledge the gender difference, with males outnumbering females amongst those with severe psoriasis have not been observed to date. Although it can only be speculative, based on this small pilot study, we suggest that males with psoriasis, have an increased alcohol intake and suffer with more comorbidities, both of which are associated with increased disease severity. To explore this further, we intend to carry out a prospective study examining the possible influence of factors such as BMI, comitant illness, stress and lifestyle on the severity of psoriasis and gender differences associated with these risk factors.

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