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### ARTERITIS TEMPORALIS

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Temporal arteritis or giant cell arteritis is a systemic granulomatous vasculitis of medium and largesized arterias, involving most frequently the temporal artery. It is usually presented with headache, fever, high ESR and anaemia. If untreated, complications like ischaemic optic neuritis may even lead to blindness. Although very rare, scalp necrosis and ulcerations are the most common dermatologic findings. We report a case of 85-year-old woman with bilateral scalp ulcerations treated as classic ulcers for 3 months, followed by blindness of the left eye, headache, but having normal ESR. Diagnosis was confirmed by a dermatologist after a skin biopsy taking from the ulcer margin.

### PATIENT'S SELF-TREATMENT – ONE OF DECISIVE FACTORS IN COMPLEX LYMPHEDEMA MANAGMENT: WHY AND HOW?

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**Objective:** Lymphedema patients' self-treatment is generally accepted to be an unavoidable part of complete decongestive therapy (CDT), particularly in maintenance phase. It includes: (a) arrangements in life régime, (b) skin care, (c) self-lymphdrainage, (d) self-bandaging, (e) self-applied pneumatic compression, (f) physical and breathing exercises, (g) elevation of the limbs, (h) appropriate sport and recreational activities and (i) self-measurement.

**Methods:** Since August 2005 till Sept. 2008 altogether 389 lymphedema pts. from varying cause (97 of primary and 292 of secondary type) were accepted for CDT and follow-up on out-patient basis in our lymphocentre.

**Results:** Following experiences were gained, how to concept an effective self-treatment programme:

- Patients' management must begin with clear-enough information about the pathology of lymphedema and rational treatment strategy in which the basic role of regular self-care must be emphasized (lymphologist).

- Pts. should be motivated to reach optimal grade of cooperation - „adherence“.
- Subsequent education in the art of self-treatment must be carried out by lymphotherapists (personal teaching, demonstrations, illustrated leaflets etc.).
- Individual strategy according to pt's age (children, seniors), physical and psychical condition limitations, the grade of cooperation (compliance, adherence), manual ability, necessity/possibility of somebody's help (e.g. partners, family members etc.).
- The art of self-treatment must be controled and clinically evaluated regularly by lymphologist (twice a year) and pt's psychical condition and motivation for cooperation monitored by clinical psychologist, if necessary.

**Conclusions:** Our approach to current assessment criteria of self-treatment outcome is based on objective evaluation of lymphedema reduction/progression photo- and structured questionnaire evaluation.

### NEONATAL PEMPHIGUS VULGARIS (CASE REPORT)

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Pemphigus vulgaris is a rare, chronic, autoimmune blistering disease caused by a defective adhesive function of the epithelial cells that leads to the acantolysis and blistering. PV occurs most frequently in adults between 40-50 years of age. Neonatal PV due to a vertical antibody transmission from mother to child is extremely rare. It has been described 21 cases in the literature so far. The authors present a case of neonatal pemphigus vulgaris diagnosed according to the mother illness history and the clinical manifestation few hours after the delivery. The diagnosis was confirmed from the skin biopsy by direct and indirect immunofluorescence.

## CONTEMPORARY ALTERNATIVES IN THE DIAGNOSTICS AND THERAPY OF FEMALE ANDROGENETIC ALOPECIA

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**Objective:** In order to be able to discuss whether apparently excessive hair loss is “real”, an understanding of the hair cycle is necessary. The most common cause of hair loss is androgenetic alopecia. Androgenic alopecia is the best example of an insidious increase in the number of hairs, which can occur over many years.

**Methods:** Some useful reference guides are available to assess androgenetic alopecia. Hair analysis includes estimate of - number of anagen hairs, ratio anagen/telogen (%), first image of number of hairs (hairs per cm<sup>2</sup>), compare image, hair length, hair diameter.

**Results:** Our results are described. Iron and zinc deficiency are discussed.

## PHYSIOLOGICAL FEATURES OF MANUAL LYMPHODRAINAGE – IMPACT ON LYMPHEDEMA TREATMENT

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**Methods:** Manual lymphodrainage is a very important part of the decongestive therapy of lymphedema. It is performed by specific manual techniques which differ from the technique of classic massage. The goal of the manual lymphodrainage is to influence the lymph flow from the lymphedematous tissue. For these reasons it is necessary to know the physiological background of this process. For a period of nearly twenty years we studied on man and experimentally on dogs, the behaviour of the lymphatic vessels and lymph in normal state and in lymphedema conditions.

**Results:** The repeated manual lymphodrainage performed with high pressure 100 mmHg alters the wall of the superficial lymphatic vessels, mainly the endothelial lining. The alteration is absent in deeply located vessels. The pressure of 30–40 mmHg does not harm the structure of lymphatics. The measured pressures in lymphatics under the quiet conditions in most cases were in the range of 0–5 mm Hg. In lymphatics with a diameter of 300–400 μm the lymph flow in rest position was very low – 2–10 μl. Every manual lymphodrainage stroke is followed for period by some seconds of negative pressure in lymphatics- which proves suction effect of manual lymphodrainage. In lymphedema there is a higher concentration of lymph proteins in lymphatics and interstitial tissue as well. By manual lymphodrainage a decrease in lymphatics of the total amount of proteins is noticed, but for a short time only. After 10-15 minutes the level of the proteins returns back to the starting values. For these reasons it is necessary to repeat the manual lymphodrainage with bandage again and again.

## PDT – EXPECTATIONS AND REALITY

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**Objective:** Photodynamic therapy represents a new therapeutical approach in dermatology with great promise (hopes). The request for such a therapy is high effectivity, good cosmetic outcome, simple and cheap technic and broad indication coverage.

**Methods:** In reality, based on large clinical studies, PDT reaches 75-95% efficacy in keratoses clearing, in BCC a little bit lower one. A good cosmetic outcome is assessed commonly. The therapeutical procedure consists of topical photosensitiser application, 3 hours of incubation under an occlusion followed by frequently painful irradiation. Subsequent skin reaction could involve often erythema and swelling presented for several days. Metvix® creme is the only photosensitiser registered in the Czech Republic for PDT. PDT reimbursement by health insurance companies is limited to 6 licensed centers under well-defined conditions. Experience on other therapeutical indication (acne, warts, leishmaniasis, lichen, etc.) has been collected. The PDT use in cosmetology seems to be promisable.

**Results:** Our PDT experience is summarized here concerning actinic keratosis, BCC, lichen ruber and cheilitis therapy.

## ATOPY PATCH TESTS IN FOOD ALLERGY DIAGNOSTICS IN ADULTS ATOPIC DERMATITIS

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**Objective:** Atopy patch tests (APT) are carried out by the similar technique as a classic dermatological patch tests for contact allergy investigation. The most frequently tested foods include cow milk, hen eggs, wheat, peanut. It has been confirmed APT can improve food allergy diagnostic in cases with negative specific IgE results. Other indications for APT investigation represent severe atopic dermatitis with unknown triggers and multiple IgE sensitisations without clinical relevance.

**Methods:** The standardisation of APT (“Position paper” EAACI/GA2LEN, Allergy 2006, 60: 1377-1384) has been still in process. Use of native food, minimally 24 hours of occlusion at back skin and response evaluation 48 and 72 hours later are recommended. Infiltration with papules (not only erythema) are suggested as a positive reaction. Any serious adverse events have not been described after APT use.

**Results:** There are demonstrated our APT results of 149 adult patients suffering from moderate to severe atopic dermatitis (and food reaction history) in this lecture. Allergy to cow milk and wheat has been evaluated by history, SPT, sIgE, APT and food challenge (DBPCFC included). Only 6 positive APT responses were mentioned.

**Conclusions:** Authors suggest APT have to be interpreted carefully and in context with other investigation methods.

## DERMATITIS HERPETIFORMIS DUHRING

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**Objective:** Dermatitis herpetiformis (DH) is an autoimmune blistering disorder. There is an important association with gluten-sensitive enteropathy. Prevalence has been reported up to 10 cases per 1,000,000 population. The onset of DH starts from the second to fourth decade of life. The diagnosis of DH is based on the clinical features and on the immunofluorescence findings in the skin biopsy. Antigliadin antibodies are a poor marker for celiac disease. These antibodies are produced in response to gliadin and other related prolamins found in wheat. Antigliadin antibodies are also found in non-enteropathic patients. Antiendomysial antibodies (AEA) and antireticulin antibodies (ARA) are found in patients with dermatitis herpetiformis. Antibodies against tissue transglutaminase (ATA) are detected in about 80% of patients with dermatitis herpetiformis and in almost 100% of patients with celiac disease.

**Methods:** Antibodies against gliadin and tissue transglutaminase were detected using ELISA method. The other antibodies (antiendomysial and antireticulin antibodies) were detected by indirect immunofluorescence.

**Results:** We present our immunofluorescence findings in the skin of patients with suspected DH and the results of detection of antibodies mentioned above in patients with DH and celiac disease in the year 2008.

**Conclusions:** The laboratory blood tests are important. The typical clinical cases can be easily distinguished. The characteristic distribution of the eruption is present. Some special tests are necessary to determine unusual cases – the detection of antibodies against gliadin, reticulin, endomysium and tissue transglutaminase.

## OUR EXPERIENCE WITH PHOTODYNAMIC THERAPY

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**Objective:** Photodynamic therapy is an efficient treatment method for some skin cancers and premalignant conditions. Its mechanism is based on applying the photosensitizer, which is a chemical compound concentrating in the most quickly proliferating tumour or inflammatory cells, and exposure of the patient to the visible light of certain spectrum. The subsequent reaction of the two elements causes death of corresponding cells.

**Methods:** There were 52 patients treated and 84 procedures carried out at the I. Department of Dermatovenereology between October 2006 and October 2008.

**Results:** The most frequent PDT indications were basocellular carcinoma (41), keratosis actinica (24) and m.Bowen (9). Other indications were spinocellular carcinoma (4) and mycosis fungoides (2), extramammal m.Paget (2), verucae vulgares (1) and condyloma accuminatum (1).

**Conclusions:** We accept PDT as a modern, non-surgical tech-

nique with very good cosmetic effects. With our patients the results of PDT treatments were cosmetically outstanding and the method is highly appropriate for multiple lesions – i.e. actinic keratoses. PDT treatment of our patients with mycosis fungoides proved very hopeful results, too. We have not met any serious adverse effects during or after the procedure.

## THE POSSIBILITIES OF THE ANTIOXIDANT PROTECTION OF THE ORGANISM AFTER LLLT IRRADIATION

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**Objective:** Cell damage is induced by reactive oxygen species (ROS). ROS are either free radicals, reactive anions containing oxygen atoms, or molecules containing oxygen atoms that can either produce free radicals or are chemically activated by them. Under normal conditions, ROS are cleared from the cell by the action of superoxide dismutase (SOD), catalase, or glutathione (GSH) peroxidase. Superoxide Dismutase (SOD) catalyzes the reduction of superoxide anions to hydrogen peroxide. It plays a critical role in the defense of cells against the toxic effects of oxygen radicals [2].

**Methods:** We used female mice of the strain CD1 with a weight of 26 - 28 grams. The mice were exposed in the abdomen region to laser light (830 nm, 300 mW) with an energy density 20 J/mice (5 J/cm<sup>2</sup>). After 30 min. the mice were narcotized by surgery anesthesia and blood samples were taken from the vena cava inferior. Erythrocytes were used to assess the activity of the Superoxide dismutase (SOD) and Reduced Glutathione (GSH).

**Results:** The purpose of our work was the assessment of changes in the activities in erythrocytes of selected antioxidants after in vivo laser irradiations. The results of our present work are not in contrast to the findings discussed above; however, they suggest that laser radiation induces a complex process in the organism, persisting for a rather long time period. These studies certainly need to be continued.

**Conclusions:** Karu in his paper [1] demonstrated enhanced superoxide dismutase (SOD) levels after LLLT exposure. Interaction between SOD and Reactive Oxygen Species (ROS) production seems to balance free radical activity and to allow for the beneficial effects of ROS while inhibiting detrimental action. Cho [3] described an LLLT induced increase in the activity of Superoxide dismutase (SOD) by about 40% in osteoarthropathic rabbits as compared to controls.

## PRACTICAL EXPERIENCE WITH APPLICATION OF ISO 9001 QUALITY MANAGEMENT SYSTEM IN PRIVATE LASER CLINIC (CASE REPORT)

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In medicine, laser is a phenomenon of last few decades. Modern surgical laser deliver enormous energy to the tissue in a fraction of a second. Different wavelengths produce different interactions. In therapy, devices emitting a couple of miliwatts are history. Pocket size lasers bring specific penetration characteristics. Prices of IPL`s and LED`s decrease, but their energy is on the rise. What do all these technological miracles have in common? High-tech require high safety! Specific operating procedures, hygienic standards, safety measures must be observed. And, high-tech require high quality. Specific processes regarding quality, organization, documentation must be applied. Quality accreditation and certification systems can help you a lot. This presentation brings current experience with introducing Quality Management System in one of the leading laser centers in Prague. The Clinic should obtain its ISO 9001 International Quality Certificate in August 2009.

### ROLE OF ESTROGENS AND SELECTIVE ESTROGEN RECEPTOR MODULATORS IN THE TREATMENT OF HAIR LOSS

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**Objective:** Estrogens have a profound influence on skin and hair. It has been known that estrogens alter hair follicle growth and cycling by binding to locally expressed high-affinity estrogen receptors (ERs). Our aim was to dissect the effect of the estrogen and ERs agonists and antagonists on the hair follicle growth and cycling in order to identify possible new treatment targets for androgenetic alopecia, telogen effluvium and chemotherapy-induced alopecia.

**Results:** In our studies we first investigated the expression of ERs in the different regions of male and female hair follicle, the effect of estrogen and ERs modulators on the hair growth and the role of estrogen on the hair protection during chemotherapy. Emphasizing the complexity and species-, gender, and site dependence of E2-induced biological effects on the hair follicle, we explored potential targets for pharmacological intervention in clinically relevant hair cycle manipulation.

**Conclusions:** While the pre-clinical results often show that estrogen or ERs modulators might be highly effective in the hair loss modulation, the treatment success in the clinical experience is dependent on the drug profile and route of administration.

### WYETH SATELLITE SYMPOSIUM

**Hercogová J.<sup>1</sup>, Bachelez H.<sup>2</sup>, Pariser D.<sup>3</sup>, Joly P.<sup>4</sup>**

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The Wyeth-sponsored satellite symposium will communicate the

serious and debilitating consequences of moderate-to-severe psoriatic disease for both adult and paediatric patients, and review the biologic treatment options currently available to the clinician. To begin the symposium, Professor Hervé Bachelez will describe the prevalence and impact of childhood psoriasis, and review strategies currently available for the management of this patient group. Dr David Pariser will then discuss recently published data on nail psoriasis to educate the audience on the impact of this disease on the patient, and discuss the importance of effective management with a focus on biologics. Non-skin-related symptoms of moderate-to-severe psoriasis are important considerations in patient management. Professor Pascal Joly will highlight the significant physical and psychological comorbidities associated with psoriatic disease, and their impact upon the patient. A discussion will also take place on the on-going challenges in the effective and patient-focused management of psoriatic arthritis.

### LASER IN PALIATIVE TREATMENT OF COLORECTAL CANCER

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**Objective:** Authors described their more than 20 years experiences with laser treatment of colorectal cancer.

**Methods:** In the first period of our clinical practice, from 1988 to 1991, all the laser treatments were held under short-term anaesthesia. Our patients were hospitalized for 2 or 3 days. For the actual treatment we used the rigid and also the flexible endoscopic technique. We preferred the flexible technique definitely. Since January 1991 we have practiced almost all treatments in the out patient department without general anaesthesia. Only in the cases where treatment reaches under linea dentata we choose local or short-term general anaesthesia. The patients are hospitalized for one day. In the actual treatment we take advantages of diode laser. We try to evaporize the most of the tumour tissue. The haemostasis is defined by the zone of coagulation. The indication against the palliative treatment is incontinence caused by the growth of tumour into the sphincter muscle.

**Results:** In the first period of our clinical practice, from 1988 to 1991, all the laser From 1988 to 2009 we performed 1478 operations for 483 patients with inoperable carcinoma of rectum. The average age of our patients was 72 years. In 92% of the cases we were primarily successful. In 8% of the cases we had to establish colostomy because of unsuccessful recanalization. The average time of surviving in these cases was 8 months (1–61), we had to repeat the recanalization every 3 months. Among our complications we met with the perforation into abdominal cavity in 4 cases and serious bleeding in 2 cases.

**Conclusions:** Laser recanalization is effective method of palliation. The necessity to repeat laser recanalizations every three months is a great disadvantage of this method.



## IMMUNOLOGICAL CHANGES IN THE PSORIATIC LESIONS

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**Objective:** Immunological changes include an increase of T-lymphocytes, positive reaction to rheumatic factor and C-reactive protein, change in number of B-lymphocytes, production of immunoglobulins and immune complexes. Immunological changes found in psoriatic lesions – hyperproliferation of keratinocytes activity of polymorphonuclear leukocytes in acute phase and infiltration of T-lymphocytes in chronic phase. These reactions may be accompanied with humoral immunological changes.

**Methods:** We indicated an immunohistological examination in 56 patients aged 2 to 74 years with a histologically confirmed psoriasis.

**Results:** We found in the stratum corneum a focal deposits of immunocomplexes (IC), more often with IgG, less with IgA antibodies and C3 component of complement. We found out IC with IgM and IgG antibodies and fibrin in the vessel walls.

**Conclusions:** In our opinion the detection of IC in psoriatic lesions together with changes of immunity in peripheral blood enables to place psoriasis to autoimmune diseases and it will be valuable after the identification of autoantigens.

## THE CYTOKINE GENE POLYMORPHISMS IN PEMPHIGUS VULGARIS PATIENTS IN THE SLOVAK POPULATION

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**Objective:** Cytokines participate in the induction of antibody production as well as maintenance and regulation of immune responses to pemphigus vulgaris-related autoantigens. The functional polymorphisms in cytokine genes are therefore among potential candidates participating in susceptibility to PV.

**Methods:** The study comprised 33 PV cases and 140 unrelated healthy subjects. Cytokine genotyping was carried out by polymerase chain reaction with sequence-specific primers using a commercial kit. Polymorphisms in following 13 cytokine genes were investigated: IL-1 $\alpha$ , IL-1 $\beta$ , IL-1R, IL-1RA, IL-4R $\alpha$ , IL-12, IFN- $\gamma$ , TGF- $\beta$  1, TNF- $\alpha$ , IL-2, IL-4, IL-6 and IL-10. Their association with the disease was assessed with Fisher's exact test.

**Results:** A weak disease association was found with TNF- $\alpha$  -308 G/A and IL-10 -1082 G/A, -819 T/C and -592 A/C gene polymorphisms only. The analyses revealed slightly increased frequencies of TNF- $\alpha$  -308 G allele (95.45% vs. 86.79%; P = 0.053), -308 G/-238 G haplotype (93.94% vs. 82.86%; P = 0.022)

and IL-10 -1082 A/-819 C/-592 C haplotype (45.45% vs. 30.00%, P = 0.019) in PV patients; however, the significance disappeared after correction for multiple testing.

**Conclusions:** Our results suggest that variations in the TNF- $\alpha$  and IL-10 promoter regions could contribute to the development of PV but their overall impact would be rather limited. Our finding of increased frequency of low-producer TNF- $\alpha$  allele and haplotype among PV patients seems to be in conflict with the role of TNF- $\alpha$  in the induction of acantholysis. We explain this discrepancy by the existence of strong linkage disequilibrium between high-producer TNF- $\alpha$  -308 A allele and protective HLADRB1\*0301 allele, which is rare in patients with PV. The observation of increased frequency of lowproducer IL-10 ACC haplotype in PV patients is in line with believed protective role of IL-10 in acantholytic process and indicates a role of IL-10 gene promoter polymorphisms in the susceptibility to PV.

## SKIN INVOLVEMENT IN HUMAN HERPES VIRUS INFECTIONS – KAPOSI SARCOMA

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There are at least eight herpes virus types causing mucocutaneous disease in human. Herpes simplex virus 1,2, Epstein Barr virus, cytomegalovirus, varicella zoster virus, human herpes virus (HHV) 6, 7 and 8 cause acute, recurrent or chronic lesions on the skin and mucous membranes. Typical for these infections is latency. HHV 6 is a cause of exanthema subitum in children and is probably associated with pityriasis rosea in young adults. HHV 8 is associated with Kaposi sarcoma (KS), classic and HIV related as well as KS in immunocompromised patients. Classic KS is not rare in the region of central Europe, typically affecting older men. It usually takes an indolent course with favorable survival rates. The authors present their experience with the course and treatment of classic Kaposi sarcoma.

## CICATRICAL PEMPHIGOID

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**Objective:** Autoimmune reaction in subepidermal bullous diseases can be targeted against several antigens in the dermo-epidermal junction zone. Scarring with skin and/or mucosal involvement occurs in cicatricial pemphigoid, epidermolysis bullosa acquisita and IgA linear dermatosis. Sometimes the autoantibodies against bullous pemphigoid antigens can be detected as a result of epitope spreading. Clinical picture depends on the involved antigens. Diagnostic methods as classical biopsy, direct and indirect immunofluorescence have been complemented by ELISA, immunoprecipitation and immunoblot studies during the last years. These tests improve considerably diagnostic possibilities in bullous dermatoses and enable to study the course of the diseases and detect rare variants. The experience with the clinical picture, laboratory diagnostics and therapy of patients with cicatrizing bullous dermatoses in the Centre of bullous dermatoses in Brno, Czech Republic is given.

## SOLID STATE LASERS IN MEDICAL DISCIPLINES

**Jelínková H., Šulc J., Němec M., Koranda P., Fibrich M., Kubeček V., Čech M.**

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**Objective:** Lasers have become powerful and indispensable tools, used in many aspects of medicine. The requirements needed when laser radiation is used in medicine are: minimal injury of surrounding tissues (thermal and mechanical), minimal bleeding, and precision of surgical procedure. For understanding of the laser radiation influence on life tissue, the factors entering into the interaction of radiation and tissue must be known.

**Methods:** The solid state lasers in infrared spectral region were used for application in ophthalmology, urology and dentistry. As radiation sources, solid state laser systems from near- up to the mid-infrared region were used. The interaction with eye and urology tissue was investigated for the understanding of possibility to use appropriate wavelength and intensities for specify treatments. Also the possible wavelength for utilization in dentistry – for drilling and for bracket debonding is discussed.

**Results:** The laser applications in medicine are summarized on the basis of the radiation interaction with the tissues.

**Conclusions:** The description of the physical background of the interaction mechanism between laser radiation and biological tissue is shown. Laser applications in urology and dentistry are also mentioned.

## QUALITY OF LIFE IN CHILDREN WITH ATOPIC DERMATITIS

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Atopic dermatitis (AD) is the commonest chronic relapsing childhood dermatosis.

The worldwide incidence of atopic dermatitis is estimated at 3 % to 5 % in children 5 years of age or less. About 49 % to 75 % of children with atopic dermatitis develop the disease by 6 months of age and the percentage increases to 80 %, 90% by 5 years of age. The lifetime prevalence has been increasing in most countries with a 'Western style' of environment over the last few decades. The most recent studies in the Czech Republic reports the prevalence rate of AD in children up to 1 year of age 16 %, in a pediatric group up to 15 years of age 12 % and in adolescents over 16 years old 3 %. There are significant difficulties of living with AD which have a profoundly negative effect on the healthrelated quality of life of children and their family unit in many cases. The aim of this study was to evaluate the level and the structure of the quality of life of pediatric patients with AD. Similar study has not been conducted in the Czech Republic so far. We enrolled a group of patients: children (from newborns up to 18 years) suffering from AD. During check-ups, each child with the help of his parent/carer filled proper quality of life questionnaires (with permission of Prof. Finlay). For the children from newborns up to 7 years of age, 'Infants' Dermatitis Quali-

ty of Life Index', then for the older group: from 8 up to 13 years, 'Children's Dermatology Life Quality Index' the cartoon version. For the children from 14 up to 18 years of age 'Children's Dermatology Life Quality Index' the text version. The first results of this study will be presented at the 6th EADV Spring Symposium in Bucharest, Romania.

## COSMETIC COMPLICATIONS OF BIOLOGICAL THERAPY

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**Objective:** The implication of an immunologic phenomena in the pathogenesis and development of many cancers as well as many chronic inflammatory diseases, (e.g. psoriasis), has led to research for the new treatment options over the past few years. The result has been the birth of biologic therapies. Biological therapy has been designed to repair, stimulate or enhance the immune system's responses in the fight with the chronic inflammatory processes or cancer cells. There has been defined 4 strategies that clarify the mechanism of action for the various biologic agents used in dermatology: (1) reduction of pathogenic T-cells (alefacept), (2) inhibition of T-cell activation (efalizumab), (3) immune deviation and (4) blocking the activity of inflammatory cytokines (infliximab, etanercept, adalimumab). Many of them cause mild, local sensitivity reactions such as: urticaria, angioedema, allergic drug eruption, pruritus. According to the March 18 US Food and Drug Administration Drug Safety Newsletter, there also have been reported serious skin reactions such as: Erythema multiforme, Stevens-Johnson syndrome and Toxic epidermal necrolysis. Biologic agents group, which is used to a large degree in the treatment of cancers, is epidermal growth factor receptor (EGFR) inhibitors (erlotinib, cetuximab, gefitinib). Although these targeted therapies are devoid of hematopoietic and nonspecific toxicities common with conventional chemotherapy, they are characterized by the development of dermatologic reactions, which occur in the majority of patients. These reactions include: papulopustular rash (45 % - 100 % of patients), xerosis ( 7 % - 35 % of patients), pruritus ( 8%-35% of patients), periungual inflammation ( 12 % -16 % of patients ) and alopecia (14 % - 21 % of patients ). The importance of these reactions is underscored by the psychologic and physical distress to the patient, by data suggesting that the severity of the rash may predict clinical outcome and by the need in certain cases for EGFR-inhibitors dose decrease or discontinuation due to the intolerance. There are no established guidelines in the dermatologic literature for the treatment of these reactions. We present a case of a patient who developed a rash due to the treatment of non-small cell lung cancer with EGFR-inhibitor erlotinib. This patient has been treated with the wide range of possible methods at our department in years 2007/2008. The fully underwent treatment led first of all to the significant regression of the skin lesions but also to the improvement of the quality of life and continuation of the anticancer therapy by our patient. Many trials confirm a clear and consistent association between the development of the papulopustular rash and better outcome of the patient. We do believe that also our case report will confirm and reinforce this thesis.

## UPDATE ON CUTANEOUS SEBACEOUS NEOPLASMS AND RELATED LESIONS

**Kazakov D.V.**

*Charles University Medical Faculty Hospital,  
Dept of Pathology, Pilsen, Czech Republic*

**Objective:** The presentation is focused on cutaneous adnexal lesions with sebaceous differentiation. The following issues are discussed: histological and embryological aspects of sebaceous glands: common denominators of sebaceous differentiation in cutaneous adnexal tumors; main entities (sebaceous carcinoma, sebaceous adenoma, and sebaceoma) and their clinicopathological variations; concept of mantle and lesions with mantle differentiation, including those occurring in Birt-Hogg-Dube syndrome; sebaceous differentiation in other cutaneous adnexal tumors; pitfalls in microscopic diagnosis of sebaceous neoplasms; ectopic sebaceous glands and sebaceous lesions; Muir-Torre syndrome; role of immunohistochemistry in identification of sebaceous differentiation.

## CHARACTERISTICS OF SYPHILIS PATIENTS IN PRAGUE – RESULTS OF A QUESTIONNAIRE INQUIRY

**Kuklová I., Velčevský P., Kojanová M.**

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Prague, Czech Republic*

**Objective:** Based on a questionnaire survey, indicators of risk sexual behaviour of patients hospitalized with acquired syphilis between January 2007 and June 2008 have been identified and compared with the results obtained in 1998–2000. These characteristics has been assessed in relation to gender, age, sexual orientation, level of education, prostitution, attitude to the use of contraception and drug use.

**Methods:** Data were analyzed using SPSS 16.0 (Command Syntax Reference) with chi-squared test and Fisher exact test.

**Results:** Out of 224 hospitalized syphilis patients 106 completed the anonymous questionnaire. There were 87 (82,1 %) men and 19 (17,9 %) women. Among the 87 men, 21 (19,8 %) had diagnosed primary syphilis, 15 (14,3 %) secondary syphilis, 64 (73,6 %) were homosexual or bisexual, three (3,6%) admitted practicing sex for money, 54 (62,1 %) reported anal intercourse, 12 (14,5 %) reported a history of more than 10 sexual contacts in the preceding 12 months, 47 (54,7 %) gave a history of casual first coitus, 29 (34,7%) reported inconsistent condom use, only two (2,3 %) were an injecting drug users, 8 (9,2%) had diagnosed gonorrhoea coinfection, 6 (6,9%) were HIV positive, 17(19,5 %) had a history of gonorrhoea. Among the 19 women, 10 (52,6 %) of women were pregnant, one had diagnosed secondary syphilis, 12 (63,1 %) early latent syphilis and 6 (31,6 %) late latent syphilis. Three (16,7%) identified themselves as prostitutes, two (10,5 %) reported a history of more than 10 sexual contacts in the preceding 12 months, two (10,5 %) gave a history of casual first coitus, 17 (89,5 %) reported inconsistent condom use, only one was injecting drug user and 13 (72,2%) had been tested for HIV previously with negative results, one (5,3%) had diagnosed gonorrhoea, two (10,5 %) had gonorrhoea in their history.

**Conclusions:** Compared to the previous data from the period 1998-2000 the number of homosexual (p <0,001), single

(p=0,045) and HIV positive men and men using condom (p=0,007) has increased. In women no significant changes have been observed.

## LASER DOPPLER LINE SCANNER – AN USEFUL, SIMPLE AND NON-INVASIVE TOOL FOR EVALUATION PERIPHERAL SKIN

**Mistrik E.<sup>1</sup>, Dusilova-Sulková S.<sup>1</sup>, Blaha V.<sup>1</sup>, Fryda P.<sup>2</sup>, Sobotka L.<sup>1</sup>**

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<sup>2</sup>European Medical Laser Association, Chief Executive Officer, Prague, Czech Republic*

**Objective:** Non-healing wounds are frequent problem in patients on chronic HD. Malnutrition is main part of MIAC syndrome (malnutrition, inflammation, atherosclerosis, calcification), which can lead to peripheral ischemic skin defects. The aim of present study was to estimate skin blood flow changes during hemodialysis and their possible relationship to signs of malnutrition and inflammation.

**Methods:** 10 different areas in each hand of 36 patients (14 f and 22 m, 36-79 y) were measured using Laser Doppler Line Scanner (LDLS) before and during HD with ultrafiltration (UF) (1147 ± 745 mL). 714 areas of interest (AIs) were evaluated (10 on each hand of each patient). The relationships were evaluated using Pearson/ Spearman coefficients according to normality testing.

**Results:** Decreased blood flow was apparent in 61% of evaluated areas. The decrease was more pronounced on dorsum of the hand (74% of AIs) compared to fingers (50%). We found a significant correlation between S-Alb (0.5, p=0.002), TIBC (0.3, p=0.05), Ca x P (-0.4, p=0.04) and change in blood flow, respectively.

**Conclusions:** LDLS was found to be an useful simple and non-invasive tool for evaluation of skin blood flow in HD patients. Malnutrition and inflammation negatively influences peripheral blood flow during HD with UF. Supported by research projects MSM 0021620820, MSM 0021620819

## THE ROLE OF ALA – PDT IN THE TREATMENT OF BROAD BASED RECTOSIGMOIDAL ADENOMAS – A PILOT STUDY

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*<sup>2</sup>International Laser Centre, Department of Biophysics, Bratislava, Slovak Republic*

**Objective:** Broad based rectosigmoidal adenomas with various degrees of dysplasia after previous piece meal or en bloc incomplete polypectomy were treated additionally either with photodynamic therapy (PDT) or with argon plasma coagulation (APC) or with combination of both with the aim to destroy residual remnants in the period from 2004 to 2006.

**Methods:** 36 patients (mean age 59 years) with broad based adenomas located in rectum (24) and sigmoid colon (12) were treated after incomplete piece meal or en bloc polypectomy either



with APC (23 patients using E: 50 – 60 W) or with PDT (13 patients with ALA 60 mg/ kg orally with treatment followed 5 hours later), or in combination of both modalities (5). Endobiotic controls were performed 1 week, 1 and 3 months after treatment.

**Results:** Broad based polypoid lesions with size from 20 to 35 mm were found in rectum (24) and sigmoid colon (12). All were adenomas (8 tubular, 9 with LGD, 7 with HGD, 4 tubulovillous and 8 villous adenomas). Only incomplete (piece meal or en bloc) polypectomy was performed because of the size (29) or difficult localisation (7) of the lesion. The remnants present on the base from flat (13) up to the 5 mm of endoluminal protrusion (23). APC was added as additional treatment in 23 patients with more elevated lesions (E: 50 –60 W). 18 patients were treated in one and 5 in two session procedure. PDT with ALA sensitization (60 mg /kg bodyweight orally) was performed in flat lesions in 13 patients. In 5 patients PDT was performed additionally after APC, because of persisting residual lesion. Endobiotic controls were performed 1 week, 1 and 3 month after the treatment. In 33 patients (92%) complete healing was observed. 3 patients (8%) with persistence of dysplasia (1 HGD) and suspected cancer in the base of lesion (2) underwent surgery. All procedures were performed on outpatients basis. In PDT group skin photosensitivity for 2 days in 7 patients (55%) and one-day nausea (4 patients-33%) were observed. Transient uncomfot because of bowel inflation after the procedure was present in 12 patients (53%) in APC group. No serious complications were observed during both procedures.

**Conclusions:** PDT with ALA is effective as additional treatment for flat broad based remnants of rectosigmoidal adenomas after incomplete polypectomy. Combination with APC procedure seems to be promising.

## PHLEBEDEMA, PHLEBOLYMPHEDEMA – DIFFERENTIAL DIAGNOSIS AND THERAPY

**Navrátilová Z.**

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**Objective:** Lower limbs swelling are one of the most current complaints that we encounter in general practice. It is a very unpleasant symptom with a negative influence on the quality of our patients' lives.

**Methods:** Edema provoked by chronic venous disease is the most common cause of lower limbs swellings. The most frequent clinical sign of chronic venous disease is edema, which can accompany all its stages. Ambulatory venous hypertension, which causes capillary hypertension, is the reason of increased net ultrafiltration and compensatory increase of lymphatic water load. When transport capacity of suprafascial lymphatic system fails, edema due to veno-lymphodynamic insufficiency (phlebedema) is developed. This is a low protein edema, the transport capacity of lymphatic system is not affected. Edema is usually localized around the ankles and on the distal part of the leg, the fibrotic changes are not developed, edema recedes after a night rest. The cascade of pathophysiologic changes during the progression of chronic venous disease is the reason of the lymphatic system failure, the venolymphostatic insufficiency (phlebolymphedema) is developed. It is localized not only at the perimaleolar area and on the leg, but dorsum of the foot is

swollen too, Stemmer's sign is positive, fibrotic changes and lipodermatosclerosis are developed, and skin changes due to chronic venous disease are usually present.

**Conclusions:** The identification of different edema stages is essential for the establishment of an accurate therapeutic plan. The compression therapy, application of phlebotropic drugs and life style changes are crucial for the therapy of veno-lymphodynamic insufficiency. When veno-lymphostatic insufficiency is developed, the complex decongestive therapy (i.e. manual lymph drainage, multilayer compressive bandages and special exercises) is the treatment of choice.

## AEROALLERGENS IN ATOPIC DERMATITIS

**Nečas M.**

*St Anna Faculty Hospital, Ist. Dept. of Dermatovenereology, Brno, Czech Republic*

**Objective:** Atopic dermatitis is a complex multifactorial disease resulting from the interactions between genes and nongenetic - environmental factors. One of these environmental factors which can trigger atopic dermatitis - at least in a subgroup of atopic patients - are aeroallergens.

**Methods:** The most important aeroallergens in atopic dermatitis are the house dust mite allergens, grass and tree pollen, animal dander and molds. Revealing the role of aeroallergens in the flares of atopic dermatitis consists of careful history taking, clinical picture evaluation and other diagnostic procedures like prick tests, specific IgE and recently also atopy patch tests (APT).

**Results:** Also in our department we are very interested in this field. Between November 2004 and April 2006 a cohort of 100 patients (26 males and 74 females) with atopic dermatitis with the average age of 32, 4 years was investigated with atopy patch tests in the dermatological office of the Ist. dept. of dermatovenereology of the St. Anna Faculty Hospital in Brno, Czech Republic. The most common allergens were the house dust mite allergens (13 %), the second were grass and plant pollen (12 %) and the dog allergens were on the third place (10 %). Also our results support the fact that the atopy patch tests have higher specificity in comparison with prick tests and specific IgE and they are therefore able to supplement and precise the possibilities of the identification of aeroallergens.

**Conclusions:** The identification of aeroallergens as triggering factors of atopic dermatitis is important in respect of the preventive measures as well as the possible specific immunotherapy.

## FREQUENCY OF CONTACT SENSITIZATION IN PATIENTS WITH LOWER EXTREMITY ECZEMA

**Nečas M., Dastychová E.**

*St. Anna Faculty Hospital, Ist Dept. of Dermatovenereology, Brno, Czech Republic*

**Objective:** The aim of this work was to determine the frequency of contact sensitization in patients with lower extremity eczema/dermatitis.

**Methods:** Between the years 2001 and 2007 the authors investigated 462 patients (mean age 49,1 years, 196 males and 266 females) with eczema/dermatitis localised on lower extremities,



including feet. The patients have been investigated with epicutaneous tests of the European standard series and also with other special patch tests.

**Results:** The most frequent allergens were: balsam of Peru 44/462 (9,5%), wool alcohols 41/462 (8,9%), nickel sulphate 39/462 (8,4%), propolis 35/462 (7,6%), fragrance mix 34 (7,4%), and colophony 29/462 (6,3%).

**Conclusions:** In patients with lower extremity eczema/dermatitis the frequency of contact sensitization is still high and therefore the investigation with epicutaneous tests should belong to the routine dermatological diagnostic procedure in these patients. *The work was supported by the grant NR 9203-3/2007.*

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## LYMPHEDEMA WITH RECURRENT ERYSIPELAS TREATED BY INJECTION ENZYME THERAPY - SOLUTION HYALURONIDASIS

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**Němcová D., Mateřanková A.**

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**Objective:** Thanks to significant progress in surgery, traumatology and orthopedics, but also for consequences of serious polytraumas, recurring erysipelas is still a serious medical, social and psychological problem. Applying causal original Czech method (known since 1970s), our medical office manages to treat recurring erysipelas in the field of secondary lymphoedema (post traumatic, post surgery and post radiations), where, understandably, it is not possible to rely on manual lymphatic draining and compressive therapies not even with continual prophylactic antibiotic therapy. Serious acute and chronic recurring streptococcus infections in affected tissue (the areas of secondary lymphoedema) need to be handled quickly and causal using injections of hyaluronidasis enzyme: deliberately from central collective lymphonodes gradually towards periphery affected by erysipelas every second day. We present case report of one of our most complicated cases – 70 years old female patient, 4 years after gynecological surgery of vulvar cancer following actinotherapy with development of secondary abdominal lymphoedema, glutei, vulva and lower extremities with numerous erysipelas, with the risk of potential elephantiasis, where the frequency of recurring didn't allow us to interrupt usage of antibiotics, nor apply manual and instrumental lymphatic draining. In 5 weeks of the treatment her condition significantly improved to that extend, that within the course of one year she had no recurrences. Our medical office had the possibility to enlarge the strategy of applying therapy by hyaluronidasis on next anatomical areas where these had not been used (face, auricle, axilla and arm, lower trunk and gluteal regions), which helps to significantly lower the cost of complicated treatment.

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## THE FOLLOW-UP OF PATIENTS WITH ACNE VULGARIS TREATED WITH ORAL ISOTRETINOIN

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**Nevoralová Z.**

*Regional Hospital, Dermatovenerological Department, Jihlava, Czech Republic*

**Objective:** Severe forms of acne frequently fail to respond to conventional acne therapy. Isotretinoin is a systemic drug that really heals these forms of acne. The aim of the follow-up was to evaluate some important parameters of peroral isotretinoin treatment, especially the safety and the possibility to treat patients with concomitant diseases or laboratory abnormalities.

**Methods:** A treatment with peroral isotretinoin of patients with severe forms of acne was followed and some important parameters were analyzed. Before treatment sex and age of the patients, type and localization of acne, sport activities, concomitant diseases including atopic ones, laboratory abnormalities and signs of depression were documented. All side effects, signs of depression and stabilization of other diseases during the treatment were recorded.

**Results:** Total number of treated patients was 100 (71% males and 29% females). The average age of the patients was 18,1 years. 3% of the patients suffered from acne papulopustulosa III, 11% from acne papulopustulosa IV, 67% from acne nodulocystica and 19% from acne conglobata. The presence of severe acne in the family was at 44% of the patients. Intensive sport activities were mentioned by 51% males and by 10% females. Concomitant diseases or laboratory abnormalities were very frequent (at 51%), 33% of the patients suffered from some atopic disease. Only common and not severe side effects were recorded. No depression was observed.

**Conclusions:** We mentioned a great number of concomitant diseases and laboratory abnormalities at the treated patients. The treatment of all these patients was possible, successful and no significant worsening of any disease or laboratory abnormality was recorded. No severe side effects during the treatment were seen, dryness of skin and mucous membranes was more frequent at the patients suffering from some atopic disease. Adequate sport activities during the treatment were possible. No depression caused with peroral isotretinoin was observed.

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## A PATIENT WITH SUBCORNEAL PUSTULAR DERMATOSIS, DIVERTICULOSIS AND HYPER IgA GAMAGLOBULINEMIA – A CASE REPORT

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*<sup>2</sup>Laboratory, Dermatohistopathology, Prague, Czech Republic*

A patient with a rare diagnostic triad, subcorneal pustular dermatosis, diverticulosis and hyper IgA gamaglobulinemia, is reported. A woman with several internal diseases was hospitalized because of worsening of a dermatological state. In several days many slightly infiltrated, red plaques with many small pustules, not disturbing the patient arised on the trunk (especially on the breast), upper and lower extremities. A biopsy was taken and a diagnosis of subcorneal pustular dermatosis was established. A treatment with peroral acitretin was started, no new lesions arised any more and present plaques healed. At the same time another problems started - the patient became feverish and suffered from abdomen pains. She was transferred to a surgery department and an intensive antibiotics therapy was started. A suspected diagnosis of diverticulitis (resp. diverticulosis) was later confirmed by colonoscopy. Hyper IgA gamaglobulinemia was founded by laboratory investigation.

## OBSESSIVE-COMPULSIVE DISORDER IN ONYCHODYSTOPHIA ARTEFACTA – A CASE REPORT

**Pánková R.**

*Charles University, Department of Dermatology, Prague, Czech Republic*

61-year-old woman with a 5-year history of onychodystrophy of hand fingers-like lesions in the context of vasculitis allergica, was recommended at dermatology. This woman was treated at immunology and allergology departments. Comorbidity and pathophysiology – autoimmune thyroiditis, allergic bronchial asthma (atopy), diabetes mellitus type II, hypertension, hypertriglyceridemia, reduced high density lipoprotein (HD), abdominal obesity, ulcerous colitis. Clinical and laboratory findings – white dermatographism, dryness of the skin, onychodystrophy and onycholysis only on the hands, complement components C3, C4, and immunoglobulins IgG increased, auto-antibodies ANA IgG and ANCA proteinase 3 positive, eosinophil cationic protein (ECP) increased. Differential diagnosis is inclusive of lichen planus, psoriasis, eczema atopicum, onychomycosis, alopecia areata, acrodermatitis continua, genodermatoses, onychotillomanie, onychodystrophy artefacta. Histopathology – hyperkeratosis with thickening of the stratum granulosum and light dilation of the superficial dermal vascular plexus – non-pathognomic histopathological finding. Psychosomatic conclusion: the painful skin changes of the hand fingers and of the nails occurred six months after chronic family stress-situation (divorce), patient's retirement and moving to the country. The patient reported anxiety, frustration, social impairment. She was aware of daily obsessive-compulsive behaviour, nail picking with scissors (sharp-tipped). This „treatment“ caused permanent destruction of cuticles, paronychia, erosion and erythema on the skin of hand fingers, and step by step nails dystrophy. Dermatologist suggestion of pharmacotherapy or cognitive-behavioral psychotherapy has not accepted. The patient follows on psychosomatic therapeutic interviews. Clinical course is fluctuating. Her grand-daughter's birth has strong impact on psychological well-being.

## EXAMINATION OF SPECIFIC DNA IN DIFFERENT FORMS OF LYME BORRELIOSIS

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<sup>3</sup>*Charles University, 3rd Medical School, Medical Department, Prague, Czech Republic*

**Objective:** Specific DNA was examined in a group of 124 patients with different forms of Lyme borreliosis. Sensitivity and specificity of PCR and comparison with clinical status were tested.

**Methods:** DNA was proved by the in-house nested PCR using five parallel amplifications: three were targeted to chromosomal genes (16S rDNA, flagellin, p66) and two specific for OspA and OspC protein. Specific DNA was examined at the beginning and

end of the treatment in plasma, urine, CSF and synovial fluid. Plasma and urine were tested in 3 and 6 month controls.

**Results:** 78 patients (62,9%) out of 124 were found DNA positive before treatment. 41 patients (77,4%) were found positive in the group of neuroborreliosis, in skin involvement were positive 26 patients (54,2%) and 11 (47,8%) in arthritis. After treatment the positivity in neuroborreliosis was 41,5% (22 patients), in skin form were 16 positive patients (38,1%) and in arthritis 10 patients (47,6%). During controls after 3 months were 29 patients positive (29,0%) in generally and after 6 months it was 7 (9,2%) patients. Before treatment specific antibodies were proved in all patients with neuroborreliosis, only in nine patients with skin form and in five Lyme arthritis.

**Conclusions:** The above described technique was capable to detect specific borrelial DNA in all of the tested clinical forms of borreliosis and in all examined body fluids. There were found no substantial differences in the reactivity of primers that could be used in clinical practice. The mentionable fact was, that sensitivity of PCR in urine was comparable with the examination in CSF and synovial fluid – in relative discrepancy with some literary experiences. Some recommendations for the clinical practice could be drawn. It is necessary: a) to use methods with clearly declared sensitivity; b) to use two target sequences minimally; c) PCR is not suitable diagnostic method for the first step.

*Study was supported by grants: IGA NR/8293 and MSM 0021620812.*

## KERATINIZATION DISORDERS WITH DISTINCTIVE HISTOPATHOLOGICAL PATTERNS

**Pock L.**

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**Objective:** Among keratinization disorders there are only few with distinctive histopathological patterns – focal acantholytic dyskeratosis, epidermolytic hyperkeratosis, granular parakeratosis and pagetoid dyskeratosis. Except for pagetoid dyskeratosis all the others have been found both, in clinicopathological entities and incidentally in biopsy specimens with many different dermatoses. The aim of the lecture is to show these keratinization disorders in entities and incidental findings and to answer the question if their number is final.

**Methods:** Retrospective evaluation of our skin biopsies with the above mentioned keratinization disorders was performed. Moreover, a new type of dyskeratosis is demonstrated in two men with a generalized dermatosis.

**Results:** Focal acantholytic dyskeratosis is presented in Darier's, Grover's and Hailey-Hailey's diseases and in warty dyskeratoma. Epidermolytic hyperkeratosis is demonstrated in epidermolytic keratosis palmaris et plantaris, solitary and disseminated epidermolytic acanthoma. Granular parakeratosis is presented as an entity and in many incidental findings in association with different dermatoses. Pagetoid dyskeratosis is found only incidentally. The specific type of dyskeratosis in the two above mentioned patients has an appearance of focally arranged narrow columns of dyskeratotic cells throughout the epidermis. The term “columnar dyskeratosis“ has been used for this disorder.

**Conclusions:** There are four keratinization disorders with distinctive histopathological patterns. In addition to them skin is

able to develop other original keratinization disorders as is demonstrated by columnar dyskeratosis in a new entity. One can speculate that this type of dyskeratosis could be found as an incidental finding in the future similarly to previously identified keratinization disorders.

### CUTANEOUS SIDE-EFFECTS OF ERLOTINIB TREATMENT IN PATIENTS WITH NSCLC (FOLLOW-UP RESULTS)

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**Objective:** Erlotinib (Tarceva®) is a tyrosine-kinase inhibitor affecting an intracellular domain of the EGFR receptor. The treatment is associated with various cutaneous side-effects. Erlotinib has been approved for the treatment of locally advanced or metastatic non-small cell lung cancer (NSCLC) after failure of at least one prior chemotherapy regimen. The study aimed to evaluate the incidence and characteristics of skin changes in patients with NSCLC treated with erlotinib.

**Methods:** Since 2006 we have been collecting data about patients with NSCLC treated with erlotinib. We have clinically examined the presence, severity and onset of skin side-effects and response to dermatological treatment. Furthermore, we have been assessing the influence of EGFR and K-RAS gene mutations on an oncological treatment response and observed skin changes in a relevant subgroup of patients.

**Results:** In the first weeks of treatment, most patients developed papulopustular eruptions. We also noticed other cutaneous changes as pruritus, xerosis and painful paronychia. In severe cases the cutaneous reaction led to dose-reduction or temporary discontinuation of the erlotinib therapy. Preliminary results show that a presence of the EGFR mutation in patient's genome is a positive sign for both oncological treatment response and prognosis whereas the presence of the K-RAS mutation's effect is exactly opposite. The association between skin changes and gene mutations is under further investigation.

**Conclusions:** The cutaneous side-effects of the EGFR tyrosine-kinase inhibitors are very common, with great impact on the patient quality of life, sometimes necessitating an interruption of the oncological therapy. The early dermatological examination and adequate therapy enables to continue in the anti-cancer treatment regimen. Further research is needed to clarify the association among the gene mutations, the oncological treatment response and the cutaneous side effects.

### OUR EXPERIENCE WITH CHILDREN ATOPIC DERMATITIS THERAPY IN MULTI-SECTIONAL OUTPATIENT DEPARTMENT

Seleroová M., Kobsa M.

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**Objective:** Authors are describing group of 87 children patients with atopic dermatitis (AD).

**Methods:** These patients were examined and treated in the multi-sectional outpatient department. There is cooperation of dif-

ferent specialists from dermatology, allergology, immunology or psychology is used to enhance the treatment in this department. Essential part of this program is to evaluate quality of children patients life with AD.

**Results:** This study intensely emphasizes cooperation between specialists from different areas.

### QUALITY OF LIFE IN PATIENTS WITH CHRONIC LEG ULCERS

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**Objective:** Leg ulcers represent an important health problem. In last years, many studies evaluated quality of life of leg ulcer patients which is significantly decreased. The aim of this preliminary study was to collect data about quality of life of the patients with chronic leg ulcers in the Czech Republic.

**Methods:** A special questionnaire focused on quality of life of patients with chronic leg ulcers was developed in our department of dermatology. A questionnaire is divided in 6 parts, the questions are aimed at pain, physical, social and psychological impact, at daily activities and at aspects of treatment.

**Results:** Pain is the most dominant negative experience of leg ulcer patients. Localization of the pain, types of the pain and mean pain intensity score (using numerical rating scale) will be described. Most patients reported sleep disturbances every night or very often. They also experienced moderate restrictions in leisure activities and in household duties. Half of the patients reported partial or complete change in their clothing style (especially women). Many patients had to change their shoes completely or partially. Most patients reported certain social isolation caused by problems connected with their leg ulcer. Psychological aspects are very important, our patients often complained about bad mood and feelings, they described depression and hopelessness.

**Conclusions:** Leg ulcers can influence nearly ever aspect of the patients life. Therefore the care must be more intensively focused on quality of life.

### PDT OF GASTROINTESTINAL SUPERFICIAL POLYPS WITH AMINOLAEVULINIC ACID: A CLINICAL AND SPECTROSCOPIC PILOT STUDY

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**Objective:** In ten patients with polypoid esophageal, gastric and colorectal lesions 4 hours after oral sensitisation with ALA fluorescence spectroscopic studies of healthy and pathological tissues were performed before PDT and compared with frozen biopsic cryoslits tissue samples measured by scanning confocal microscope. Clinical PDT effects were evaluated as well.

**Methods:** 10 patients (7 M, 3 W, mean age : 56 y) with small



adenomas and early cancers in esophagus, stomach and rectosigmoidum after sensitisation with ALA 60 mg /kg/ bodyweight orally, underwent fibre fluorescence spectroscopic studies with He-Ne laser (LESA 10 BIOSPEC) before PDT. Four hours later PDT using He Ne diode fibre laser with 630 nm wavelength and with average TD 481 J was performed. Fluorescence of frozen biopsies cryoslits samples were scanned with LSM 510 Meta (Zeiss) confocal microscope in response to excitation of 488 nm Arion laser line and 633 nm He-Ne laser line (Lasos Lasertechnik) respectively.

**Results:** In all cryoslits scanned with confocal microscope with C – Achromat 40x1.2 water immersion objective was observed higher accumulation of PP IX fluorescence in adenomatous and early cancer lesions compared to normal tissue with ratio 2.5–3 : 1. PP IX fluorescence was predominantly present in mucosa with 8–9 : 1 ratio of fluorescence compared to submucosa and muscularis mucosae respectively. In fluorescent spectra the new emission band with the maximum at around 675 nm was observed, which is a typical wavelength of photoproduct of PPIX – photoporphyrin – PpI. This was probably caused by light source of endoscope during biopsy sampling. Each patient had a response to PDT. In four patients total response was observed and in 6 more than 60 % of polypoid adenomatous lesion was destroyed. Two patients with histologically unfavourable cancers (epidermoid and sigillocellular) later underwent surgery. Sunburn in 2 patients on exposed skin lasting 3 days and two days nausea in 2 patients was observed. No other side effects or serious complications during and after the treatment were observed.

**Conclusions:** Fluorescence with fibre spectrometry and bioptic cryoslits scanned with confocal microscope as well have confirmed significant higher accumulation of PPIX in superficial mucosal GI adenomas and proved ALA- PDT to be appropriate modality for these lesions.

## NEUTROPHILIC CONCENTRIC PURPURA

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A 45-year old woman with an overlap syndrome of systemic lupus erythematosus (SLE)/rheumatoid arthritis (RA). Because of the increased activity of the disease and the development of nephrotic syndrome she was admitted to rheumatology department. She developed on upper extremities, less on thighs, concentric purpuric lesions starting as flat centrifugally spreading papules. Biopsy of the flat papule revealed vacuolisation along epidermal basement membrane, diffuse sparse neutrophilic infiltration of the dermis with slight leucocytoclasia, dermal oedema (flat papule) and some extravasated erythrocytes (purpura). Direct immunofluorescence examination (DIF) of the lesion (arm) revealed fine granular linear positivity of IgG, A, M and C3 complement along epidermal basement membrane, DIF of the non lesional unexposed skin (buttocks) showed the same pattern of positivity in IgG, M. Differential diagnosis of dermal neutrophilic infiltrates is very broad. Clinicopathological correlation of figurate erythemas with neutrophilic dermal infiltration include idiopathic cases and cases associated with RA, SLE. Recently, two similar cases were published as neutrophilic dermatosis and leucocytoclastic vasculitis with erythema gyratum repens-like pattern in association with SLE. Because the neu-

trophilic infiltration is observed in both RA and SLE the diagnosis of neutrophilic figurate erythema in connective tissue disease was established. Considering dermal neutrophilic infiltration, considering interface changes on histology, DIF findings and close resemblance to described cases of erythema gyratum repens-like eruption associated with SLE we suppose that skin lesions in our case were manifestation of SLE. Neutrophilic figurate erythema (erythema gyratum repens-like) form a part of the spectrum of skin manifestation of SLE and relevant clinical data are necessary to make the diagnosis.

## A NEW LIPOSOMAL PRODUCT CONTAINING PHTHALOCYANINE FOR TOPICAL APPLICATION OF MALIGNANT TUMOUR PDT

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**Objective:** Basic preclinical studies were carried out with a newly prepared liposomal product comprising hydrophobic phthalocyanine as its active ingredient. The newly prepared liposomal product for the photosensitizer topical application needs the time interval („drug-to light time interval“) of 10 min only in contrast to the commercial product METVIX, in which the drug-to-light time interval takes 2 hrs. The product anti-cancer effect was tested in nude mice with growing human tumours as follows: mammary carcinoma (line MDA-MB-231), PE/CA-PJ34 basaloma (clone C12), HCT-116 colon carcinoma and amelanotic melanoma (line C-32). The new product containing phthalocyanine was locally spread onto the surface of the tumour region (area of about 2 cm<sup>2</sup>; 4mg phthalocyanine per 1 g of the product; 0.2 g of the product applied onto the area of 2 cm<sup>2</sup>). Ten min after that, the area was exposed to radiation from a xenon lamp (lamp type ONL 051, wave length 600-700 nm, total energy 80 J/ cm<sup>2</sup>). In most mice, the tumour completely disappeared, which was supported by histology on the 40th day after the PDT. We conclude that the hydrophobic photosensitizer with hydroxyl-aluminum phthalocyanine and its liposomal gel formulation offer optimum characteristics enabling wide ranging use of topical PDT for numerous cancer indications.

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## CETUXIMAB-INDUCED CUTANEOUS TOXICITY

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**Objective:** Novel antineoplastic therapies are being increasingly utilized by oncologists for the treatment of tumours in which standard chemotherapy cannot be tolerated or has failed. They target specific molecular pathways affecting cancer development. These signal transduction pathways may not only be overexpressed in tumours, but are also expressed in the skin which leads to cutaneous adverse reactions frequently observed in treated individuals. Epidermal growth factor receptor (EGFR) inhibitors belong to agents that are recently used in advanced cases of certain malignancies.

**Methods:** The authors report a series of 24 patients (12 patients with head and neck cancer and 12 patients with colorectal cancer) treated with cetuximab.

**Results:** The most frequent side effect reported in this series was pustular or maculopapular follicular eruption, often referred to as acneiform rash, which developed in 22 patients. Patients with head and neck cancer had a combination therapy with radiotherapy and experienced more severe radiation dermatitis accompanied by skin xerosis. Anaphylactic reaction was observed in three patients.

**Conclusions:** The spectrum of cutaneous side effects in EGFR inhibitor-treated patients is discussed with a focus on their etiopathogenesis, management as well as the relation to patients' response to antitumour therapy.

## COMBINATION BIOLOGICS WITH NON-BIOLOGICS IN DERMATOLOGY

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**Objective:** Combination therapy is a standard remedy in the treatment moderate to severe psoriasis. Despite this fact, there is lack of information about combination biologics systemics in dermatology practice, majority of publications had a case-studies manner. With the addition of biologics, combination therapy can attain a synergistic therapeutic effect between lower doses of multiple agents, thereby minimizing the adverse effects of higher dose monotherapy, such as nephrotoxicity and hepatotoxicity associated with the most commonly used systemic therapies like cyclosporine (CsA) acitretine (Act) and methotrexate (MTX). Author present review of the literature of combinations biologics with traditional systemic drugs with the addition of his own experiences in the group of partial responders to monotherapy of biologics. Combination of biologics with MTX seems to be (according to the previous studies in psoriatic arthritis) most attractive approach with respect to improved efficacy, good tolerability and pharmaco-economy. Addition of acitretin to biologics present also the alternative treatment combining immunosuppressive, antiproliferative and the canceroprotective effect.

ferative and the canceroprotective effect. Combination biologics with cyclosporine A is controversial because of high level of immunosuppression. The role of combination therapy need to be confirmed by clinical studies over the next few years to determine optimal combination, efficacy, mode of regimens and side effects.

## OUR FIRST RESULTS IN STUDYING OF LABORATORY PARAMETERS IN PATIENTS WITH EPIDERMOLYSIS BULLOSA CONGENITA

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**Background:** Epidermolysis bullosa congenita (EBC) is a rare hereditary congenital skin disease, which leads to the formation of blisters on the skin and mucous membrane caused by slight pressure or friction. Patients' hair, teeth and nails are usually affected to differing extents. EBC is caused by the mutation of thirteen genes. Four types of EBC are distinguished at this time (simplex /EBS/, junctional /EBJ/, dystrophic /EBD/ and Kindler syndrome). Autosomal recessive forms are more severe, leading to serious malnutrition, invalidity and even death in childhood.

**Objective:** In our study we focused on the investigation of several laboratory parameters including the immune system in children with EBC.

**Methods:** We compared laboratory parameters in patients with EBS, EBD and healthy children. We focused on comparison of the differences of certain laboratory parameters in patients in better and worse clinical states, separately for simplex and dystrophic forms. We tried to discover if there were any differences in laboratory findings in the same patient in a better and worse clinical state.

**Results:** Elevated levels of acute phase proteins are more often observed in patients with EBD. Patients with EBD also suffer more often from malnutrition and anaemia. Markers of inflammation are higher and anaemia is more severe for those in a worse clinical state. There were higher levels of antibodies against cows milk, gliadin, anti EMA and anti TTG in patients with EBD.

**Conclusions:** Patients with EBC do not show signs of immunodeficiency. Patients with EBD also have an altered intestinal mucous membrane, which becomes more permeable. Therefore, in these patients, higher levels of antibodies against cows milk, gliadin, anti EMA and anti TTG were observed without any characteristic clinical signs of intolerance of cow's milk and gliadin. Supported by IGA MH NR9346-3

## GENETICS AND MEDICINE: REALITY AND FUTURE

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**Objective:** The genome of each individual can be considered a dynamic system, whose main characteristics are fatally deter-

mined at the moment of conception. However, this characteristic of the genome is not definite, as it can be modulated by a wide variety of factors, both epigenetic and genetic.

**Methods:** The progress in molecular biological methods made it possible to analyse the underlying genetic background of many mendelistic disorders. In this sort of diseases, the certain genetic background plays the role of a big factor.

**Results:** However, in complex (multifactorial, multigenic) diseases there are certain gene pattern combinations together with environmental factors that are corresponding to what we call a general predisposition. But, the basic principles of genetics of complex disorders still remain to be elucidated. What is definitely certain, a disease with familiar aggregation should be always suspicious from genetic aetiology even in case that understanding of this genetic background is rather poor or the so-far knowledge is not convincing.

**Conclusions:** The use of developed molecular biology methodology, especially direct sequencing and DNA microarray technology in biomedical research has dramatically increased during the past years. Recently, a series of gene expression studies have been performed for various dermatological diseases, such as malignant melanoma, psoriasis and lupus erythematosus. These analyses have identified interesting target genes as well as putative disease susceptibility loci. However, further functional studies will be needed for a more complete understanding of the pathogenesis of these diseases. In future, interference with genes or regulatory pathways may open interesting therapeutic perspectives, especially more individualized treatment approaches of cutaneous diseases.

## SOME ASPECTS OF MOLECULAR BIOLOGICAL BACKGROUND OF PSORIASIS

**Vašků V.**

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**Objective:** Psoriasis is a chronic, inflammatory, immune-mediated skin disease affecting 2% of the European population. The complex disease usually occurs in individuals with genetic susceptibility in conjunction with environmental stimuli (trauma, infections) and may involve an immune response to autoantigens. Evidence supports a central role for dendritic cells and T cells in establishing and maintaining the "vicious cycle" of psoriatic plaque development.

**Methods:** Up to 50% of genetic susceptibility for psoriasis is associated with PSORS1. But, other single nucleotide polymorphisms were observed to be more common in subjects with psoriasis.

**Results:** From these point of view polymorphic variants in retinoid X receptors, RAGE (advanced glycation end products), angiogenic and cytokine genes can be supposed to participate in etiopathogenesis of psoriasis at least as gene-modifiers.

**Conclusions:** As a result, individual gene characteristics of patients with psoriasis could improve the possibilities of pharmacotherapy using pharmacogenomic approach which could be further stratified according to the subtypes of psoriasis in future.

## CHARACTERISTICS OF SYPHILIS PATIENTS IN PRAGUE – RESULTS OF A QUESTIONNAIRE INQUIRY

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**Objective:** Characteristics of syphilis patients in Prague - results of a questionnaire inquiry, 2007-2008 compared to 1998-2000.

**Methods:** Based on a questionnaire survey, indicators of risk sexual behaviour of patients hospitalized with acquired syphilis between January 2007 and June 2008 have been identified and compared with the results obtained in 1998-2000. These characteristics has been assessed in relation to gender, age, sexual orientation, level of education, prostitution, attitude to the use of contraception and drug use.

**Results:** Out of 224 hospitalized syphilis patients 106 completed the anonymous questionnaire. There were 87 (82,1%) men and 19 (17,9%) women. Among the 87 men, 21 (19,8 %) had diagnosed primary syphilis, 15 (14,3%) had secondary syphilis, 64 (73,6%) were homosexual or bisexual, 3 (3,6%) admitted practicing sex for money, 54 (62,1%) reported anal intercourse, 12 (14,5%) reported a history of more than 10 sexual contacts in the preceding 12 months, 47 (54,7%) gave a history of casual first coitus, 29 (34,7%) reported inconsistent condom use, only two (2,3 %) were an injecting drug users, 8 (9,2%) had diagnosed gonorrhoea coinfection, 6 (6,9%) were HIV positive 17 (19,5%) had a history of gonorrhoea. Among the 19 women 10 (52,6%) of women were pregnant, one had diagnosed secondary syphilis, 12 (63,1%) early latent syphilis and 6 (31,6%) late latent syphilis. Three (16,7%) identified themselves as prostitutes, two (10,5%) reported a history of more than 10 sexual contacts in the preceding 12 months, two (10,5%) gave a history of casual first coitus, 17 (89,5%) reported inconsistent condom use, only one was injecting drug user, 9 (47,4%), 13 (72,2%) had been tested for HIV previously with negative results, one (5,3%) had diagnosed gonorrhoea, two (10,5%) had gonorrhoea in their history.

**Conclusions:** Compared to the previous data from the period 1998-2000 the number of homosexual, single and HIV positive men and men using condom has increased. In women no changes have been observed.

## SURGICAL TREATMENT OF PENOSCROTAL LYMPHEDEMA

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**Objective:** The incidence of lymphedema of the scrotum and penis is much lower than lymphedema of extremities. In Europe we can usually see it as a result of lymphadenectomy and /or radiotherapy of inguinal or pelvic lymphatics whereas primary lymphedema of the scrotum and penis is very rare. Its progression is passed through the same stadiums as the lymphedema of the upper or lower extremities. In many cases lymphedema progress-



es to the lipohypertrophy and elephantiasis in despite of very well done CDT.

**Methods:** The authors in their paper call the attention to indications for surgery, particular steps by the surgery and post-operative care.

**Results:** At present, patient feedback from these surgeries has been unanimously positive from the aspect of: assisting with their personal hygiene, solving this social handicap, and from the perspective of improved sexual function; however, it is necessary to reach a better cosmetic effect, especially in the case of young individuals.

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## PERIORAL DERMATITIS AND CORTICOSTEROIDS – LATEST KNOWLEDGE

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**Objective:** In dermatology, topical therapy may be without exaggeration divided into therapy prior to and after the introduction of steroids into medical practice.

**Methods:** Steroids represent a revolutionary break in the therapy of many dermatoses. Not only do they foster the improvement of the condition of the skin of the patients treated, but improve the appearance and the mental state of the patient in general. Of course, it is necessary to add that nowadays we are also acquainted with the adverse effects of steroids, especially following the application of halogenated glucocorticoids to rather extensive areas over a long period of time.

**Results:** The most common and frequently seen adverse effects of inadequate topical application of steroid-containing crèmes,

ointments, and lotions are observed especially in cases of perioral dermatitis or other face dermatoses.

**Conclusions:** We would also like to demonstrate the possibility of adverse effects development following the treatment with aerosols containing corticoids.

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## THE EVALUATION OF HYPERSENSITIVITY TO TRIBENOSIDE (GLYVENOL)

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**Objective:** Tribenoside is a semisynthetic sugar derivative which is indicated to treatment of chronic venous insufficiency. Up to 10 % patients treated by tribenoside can suffer from skin side-effects. They usually occur as anaphylaxis, angioedema, urticaria and exanthemas maculo-papular rash.

**Methods:** We evaluated 27 patients treated in our department for exanthemas induced by tribenoside – in period Oct. 2005-Aug. 2008. 22 these patients were subjected to clinic (patch tests) and 8 patients of them to laboratory (lymphocyte transformation test, basophil activation test) examinations.

**Results:** A positive patch test reaction to tribenoside was seen in 1 of 22 patients. Basophil activation test gave a positive reaction in 1 of 8 patients. Lymphocyte transformation test elicited no clear positive reaction.

**Conclusions:** The obtained results proved the possibility of development of immediate and delayed type of immune reactivity in aetiology of the tribenoside induced exanthemas.