

## ABSTRACTS FROM CURRENT LITERATURE

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**Anaphylactic hypersensitivity to mercurochrome (merbrominum), Corrales Torres JL and de Corres F : Ann Allergy, 1985; 54 : 230-232.**

It is rare for metallic haptens such as mercury to produce anaphylactic shock. A 25-year-old male patient, 3 minutes after application of mercurochrome experienced intense dyspnoea, giddiness and fleeting episodes of heat and exanthema of the face and throat. By intradermal tests, passive transfer (P K) and an in vitro histamine release test, immediate hypersensitivity to mercurochrome was demonstrated. Cross reactions among different organic mercurial compounds were observed. Taking into consideration the frequent use of mercury-based antiseptics and also use of various other mercurial preparations (for the mouth and intimate hygiene, antihæmorrhoids, eye lotions, allergens in allergy tests and bleaching creams) an increase in anaphylactic reactions may be expected.

**Bhushan Kumar**

**Anaphylactoid reaction to corticosteroid : Case report and review of literature, Peller JS and Bardana EJ : Ann Allergy, 1985; 54 : 302-305.**

Adverse reactions to corticosteroids are relatively uncommon. Since these are commonly employed to treat adverse drug reactions, it is ironic to discover that these themselves are capable of precipitating an allergy-like reaction. Still, it has been suggested that corticosteroids can cause allergic reactions including anaphylaxis. Thirty five patients have been reported to have anaphylaxis-like reactions following exposure to hydrocortisone in topical and parenteral preparations. Another case of a non-atopic woman who developed urticaria during intravenous infusion of hydrocortisone is des-

cribed. Review of literature by authors revealed that IgE mediated immediate hypersensitivity has not been definitely proven in any case. The authors therefore conclude that the clinical manifestations occasionally experienced after receiving hydrocortisone are most likely pseudo-allergic reactions.

**Bhushan Kumar**

**A dermatosis associated with bacterial overgrowth in jejunal diverticula, Fairris GM, Ashworth J and Cotterill JA : Brit J Dermatol, 1985; 112 : 709-713.**

A 64-year-old male had an unusual skin eruption associated with bacterial overgrowth in jejunal diverticula and malabsorption. The skin lesions were erythematous maculo-papules, each 0.3 to 1.5 cm in diameter and distributed on his trunk and arms. Early lesions were target-like, while old lesions showed psoriasiform scaling with central clearing. There were no pustular lesions, fever or arthritis. Investigations revealed hypocalcemia, hypoalbuminemia, ESR of 46 mm, multiple diverticula in upper jejunum and the presence of excess number of bacteria in the small bowel. Circulating immune complexes containing IgG and IgM were raised and IgG and IgM deposits were seen in the dermis. A 4-week course of tetracycline 500 mg orally four times daily and metronidazole 400 mg orally thrice daily resolved the skin lesions and diarrhoea and decreased the level of circulating immune complexes and the number of bacteria in the small bowel. This dermatosis stimulated the intestinal bypass syndrome which occurs in 5-10% of obese patients treated by jejuno-ileal anastomosis.

**K Seetharam**

**Retinoid induced inhibition of growth and reduction of spreading of human epidermal cells in culture, Sashimoto T, Dykes PJ and Manks R : Brit J Dermatol, 1985; 112 : 637-646.**

The effects of various retinoids such as retinol, all-trans-retinoic acid, etretinate, 13-cis-retinoic acid and an arotinoid (RO-13-6298) were investigated on cultured human epidermal cells using a low Ca<sup>2</sup> medium. Retinoic acid and retinol showed a dose dependent inhibitory effect on the growth of the cells. The effect of the etretinate was less. 13-cis-retinoic acid showed inhibition of cell growth at higher concentrations. Arotinoid is a newly synthesized retinoid. It differs considerably in its structure from other retinoids. It did not inhibit but it showed promotion of cell growth at higher concentrations. The cell volume, cell size frequency analysis showed no difference from control cultures. Hence, the decrease in the cell area was considered to be due to reduced spreading of cells on the substrate. These results suggest that the retinoids interfere with the cell to cell and the cell to substratum attachment. It is felt that retinoids induce a fundamental change in the physical properties of the cell surface consequent on alterations in the glycoconjugates and these changes might form the basis for the therapeutic effects of these drugs.

**K Seetharam**

**Abnormal maturation pathway of keratinocytes in psoriatic skin, Bernard BA, Robinson SM, Vandaele S et al : Brit J Dermatol, 1985; 112 647-653.**

The maturation pathway of normal and psoriatic epidermis was compared in 11 patients by using 3 different markers : (1) Involucrin, a protein precursor of the cornified envelope which is normally present only in the stratum granulosum and stratum corneum, was detected in all the layers of psoriatic epidermis, except the basal layer. (2) An antigen, which is detected

by murine monoclonal antibody was present in all the layers of psoriatic skin except the basal layer but it was not present in the uninvolved and the normal skin. (3) Fibronectin, which is seen in the normal dermo-epidermal junction, was detected in the dermis and epidermis both intracellularly and extracellularly. These results suggest that the alteration in epidermal maturation in psoriasis is not the result of rapid cell transit but as a result of alterations taking place in and around the cells just above the basal layer.

**K Seetharam**

**Circulating hyaluronate in psoriasis, Lundin A, Laurent EA, Hallgren R et al : Brit J Dermatol, 1985; 112 : 663-671.**

Serum hyaluronate (hyaluronic acid) was measured by using radioassay method in 44 patients with psoriasis (23 had only skin lesions and 21 had both skin lesions and arthropathy), 7 patients with atopic dermatitis and 44 healthy controls. Hyaluronate was elevated in both the groups of psoriatic patients and the levels were higher in those with widespread and active skin disease and/or active arthritis. The hyaluronate values in atopic dermatitis patients did not differ significantly from the controls. Serum hyaluronate levels were compared with plasma concentrations of alpha-1-anti trypsin, haptoglobin, IgG, IgA, IgM and ESR. There was significant correlation between hyaluronate level and raised levels of haptoglobin, alpha-1-antitrypsin and ESR. It was considered that increased hyaluronate in psoriasis indicates involvement of the dermal and the synovial tissues in addition to the epidermal changes.

**K Seetharam**

**Thalidomide treatment of prurigo nodularis, Winkelmann RK, Connolly SM, Doyle JA et al : Acta Dermato-Venerol, 1984; 64 : 412-417**

Four patients with prurigo nodularis for several years had remissions following 100-300 mg thalidomide per day. Three of the four

patients had increased IgE levels that decreased during therapy. In two patients, short-term treatment (two to three months) was not sufficient to produce a complete remission, but it was effective. Two patients had remission for several years with more than six months of treatment.

Omar Jabr

**Pregnancy and porphyria cutanea tarda,** Rajka G : *Acta Dermato-Venerol*, 1984; 64 : 444-445.

A 31-year-old woman with a negative family history for skin diseases including porphyria, hepatitis or chemical liver damage, developed typical clinical and laboratory signs of porphyria cutanea tarda at the end of her second pregnancy. She had elevated SGOT and SGPT values. She had taken oral contraceptive only before her first pregnancy 4 years ago which was normal. Venesections of 400 ml of blood repeated every 4 weeks had a beneficial effect on her condition, and she delivered a normal child.

Omar Jabr

**Panniculitis in *Pseudomonas aeruginosa* septi-** cemia, Llistosella E, Revella A and De Moragas JM : *Acta Dermato-Venerol*, 1984; 64 : 447-449.

A 71-year-old man developed multiple subcutaneous nodules during *Pseudomonas aeruginosa* septicemia. The acute and simultaneous flare-up of the inflammatory nodules appeared to be specific to the *Pseudomonas* infection. Histopathologically, vascular lesions were prominent in the subcutaneous nodules.

Omar Jabr

**Chrysiasis following gold therapy for rheumatoid arthritis : Ultra structural analysis with X-ray energy spectroscopy,** Pelachyk JM, Bergfeld WF add Mc Mahow JT : *J Cutan Pathol*, 1984; 11 : 491-494.

Chrysiasis is a rare, permanent pigmentation—slate grey, greyish purple, greyish blue, bluish violet or bluish yellow, caused by the parenteral administration of gold followed by exposure to

UVL. Authors here report a case of chrysiasis following gold therapy for rheumatoid arthritis in a 57-year-old woman. A skin biopsy revealed small, black pigment granules in the upper dermis around blood vessels and within macrophages. Electron microscopy showed the presence of electron-dense, angulated particles within phagolysosomes of endothelial cells and dermal macrophages. X-ray energy spectroscopic analysis of these particles demonstrated a spectrum consistent with the presence of gold.

K Pavithran

**Diagnosis of liver involvement in early syphilis—a critical review,** Veeravahu M : *Arch Int Med*, 1985; 145 : 132-134.

Warthin demonstrated spirochetes in human liver tissue as far back as 1918. Hahn in 1943 reviewed 38,825 cases of secondary syphilis and found only 7 acceptable cases with concomitant liver involvement. Still the diagnosis of liver involvement in early syphilis has always posed a problem because of its rarity and the difficulty of excluding coincidental liver disease caused by a multitude of pathogens. Case reports deal predominantly with jaundiced homosexual men in whom syphilis is discovered later, and the prospective studies of patients with early syphilis disclose only mild biochemical abnormalities in liver function test results. The raised enzymes in these patients may have been due to ulcerative proctitis, diarrhoea, copious intake of alcohol and arsenotherapy. There is no single characteristic feature attributable to early syphilitic hepatitis. Even liver histopathologic findings have varied from focal necrotic changes, interaciner granulomatous lesions, cholestatic changes, to diffuse granulomatous changes with areas of necrosis. At least in those patients who have jaundice, there is a likelihood of coincidental viral hepatitis. Therefore, the evidence to implicate *Treponema pallidum* as a liver pathogen in early syphilis is not convincing.

Bhushan Kumar

**Malignancy in chronic ulcers in leprosy; a report of 5 cases from northern Nigeria : Leprosy Rev, 1985; 56 : 249-253.**

Five male patients, 4 having BT and 1 having LL type of leprosy, had ulcers over their heel or palm for periods of 2-15 years. Biopsies of the ulcers revealed squamous cell carcinoma in 2 and verrucous carcinoma in 3. Depending on the site of the ulcer (heel or palm) a below-knee or below-elbow amputation was done. Four patients were doing well 9 weeks - 17 months later, while the fifth patient died one month after surgery.

Omar Jabr

**The outpatient treatment of nerve damage in patients with borderline leprosy using a semi-standardized steroid regimen, Kiran KU, Stanley JNA and Pearson JMH : Leprosy Rev, 1985; 56 : 127-134.**

Thirty three patients with borderline leprosy who had developed signs of nerve damage within the previous 6 months, were treated with a semi-standardized course of corticosteroids with an average initial dose of 25 mg prednisolone daily (depending on body weight of patients and severity of neuritis) reduced by 5 mg daily per month and for an average period of 5 months. The treatment was unsupervised and no patient was admitted to the hospital, patients were seen every 1-2 months during the period of treatment and every 2-6 months thereafter. In 80% of the cases, the final follow up assessment was more than 6 months after steroid treatment had been discontinued. The results were assessed by tests of voluntary muscle power and of sensory function, 38 nerves out of 57 nerves studied showed marked improvement and none got worse. No serious side effects were observed.

Omar Jabr

**Ocular findings in patients treated with PUVA, Stern RS, Parrish JA and Fitzpatrick TB : J Invest Dermatol, 1985; 85 : 269-273.**

Psoralens have been found in human and animal lenses after parenteral administration and are known to photobind with lens proteins

in the presence of UVA radiation. Presumptive PUVA-induced cataracts have been reported in patients who did not wear adequate eye protection after psoralen ingestion.

This 5-year prospective study of ophthalmic findings in 1299 patients treated with oral 8-methoxy psoralen photochemotherapy for psoriasis failed to demonstrate a significant dose-dependent increase in the risk of developing symptomatic cataracts. These patients were instructed to wear UVA blocking eye glasses when exposed to sunlight and during treatment for a 12-hour period beginning from the time of 8-methoxy psoralen ingestion. However, the authors did observe a small increase in the risk for development of nuclear sclerosis and sub-capsular opacities among patients who received at least 100 PUVA treatments compared to patients with fewer than 100 treatments. Prevalence of cataracts in the patients and a large population was not different. Since, the latency period for development of symptomatic ocular abnormalities may be longer than 5 years, continued surveillance of our cohort and continued appropriate ocular protection by all patients treated with PUVA is indicated. **Bhushan Kumar**

**Photohemolytic potency of tetracyclines, Bjellerup M and Ljunggren BO : J Invest Dermatol, 1985; 84 : 262-264.**

It is well documented that tetracyclines are able to induce light reactions in human skin and nails. This study has been performed to elucidate the phototoxic potential of different tetracyclines. Hemolysis induced by long-wave ultraviolet radiation (UVA) and 8 different commercial tetracycline derivatives was studied in a model using human red blood cells. Demethylchlor tetracycline and doxycycline were shown to have pronounced hemolytic properties causing 88% and 85% hemolysis respectively, at a concentration of 50  $\mu\text{g/ml}$  and 72  $\text{J/cm}^2$  of UVA. Tetracycline, oxytetracycline and chlor-tetracycline caused maximally 18% hemolysis at 200  $\mu\text{g/ml}$  and lymecycline only 7% at 100

$\mu\text{g/ml}$ . Methacycline showed intermediate hemolytic effect of 36% at 200  $\mu\text{g/ml}$ . Minocycline had no hemolytic effect what-so-ever. These experimental data correlate very well with the clinical reports and comparative phototoxicity trials in humans. Photohemolysis may thus be of value for predicting tetracycline phototoxicity.

**Bhushan Kumar**

**Elevated IgE immune complexes in children with atopic eczema, Ferguson AC and Salinas FA : J Allergy Clin Immunol, 1984; 74 : 678.**

(Abstract taken from *Annals of Allergy*)

Twenty children with atopic eczema were found to have very high levels of serum IgE complement fixing immune complexes when compared with 10 children with allergic rhinitis who acted as controls and who were found to have levels within the range for non-allergic subjects. The more severely involved patients tended to have higher levels but the correlation was statistically not significant. The levels did not correlate with the serum IgE. The authors suggest that the release of complement may result in low grade persistent inflammatory mediator release and this could be the cause of typical itching as seen in this disease; therefore the mediator release may be important in the pathogenesis of atopic eczema. In addition, this may contribute to the already known impairment of cell mediated immunity which is seen in patients with atopic dermatitis.

**Bhushan Kumar**

**Anaphylactic shock during elimination diets for severe atopic eczema, David TJ : Arch Dis Child, 1984; 59 : 983. (Abstract taken from *Annals of Allergy*)**

In investigation of atopic dermatitis with elimination diets, 80 patients were studied with some or all of the foods withdrawn and then later introduced singly. In 4 of these patients,

the introduction of a simple food (soya, chicken, corn and cow's milk) caused anaphylactic shock. In 2 patients there was spontaneous recovery but in 2 resuscitation and intensive care were necessary to save their lives. All of these children were under 5 years of age. It is pointed out that the patients and their parents should be warned of the possibility of violent reactions, and of course, life-saving measures should be available. It is also important to note that in the patient who had anaphylaxis from the cow's milk, anaphylactic reaction did not come on until  $10\frac{1}{2}$  hours after the challenge and this was one of the patients who required resuscitation and care in the intensive care unit. In other words, severe reactions do not always occur within the first few minutes of ingestion and this must be taken into account when investigating and treating these patients.

**Bhushan Kumar**

**Characterisation of T-cell subsets in patients with atopic dermatitis using OKT monoclonal antibodies, Miadonna A, Tedeschi A, Leggieri E et al : Ann Allergy, 1985; 54 : 321-326.**

Most patients with atopic dermatitis have high levels of circulating IgE and an impaired T-cell function. However, conflicting results have been reported from studies evaluating concanavalin-A-inducible suppressor cell activity in such patients. Similarly, reduced OKT8 antibody reacting cells and normal distribution of T-cell subsets have been reported. So the authors conducted a study to see the distribution of T-cell subsets by means of OKT monoclonal antibodies in 19 children with atopic dermatitis. A decreased percentage of circulating OKT4 cells was observed. No difference was found between atopic and normal subjects regarding the percentages of circulating OKT8 and OKT11 cells. An increased OKT4/OKT8 ratio was detected only in 3 children with a particularly severe and extensive atopic eczema.

**Bhushan Kumar**

**Antibody titres to *Propionibacterium acnes* cell wall carbohydrate in nodulocystic acne patients, Webster GF, Indrisno JP and Leyden JJ : J Invest Dermatol, 1985; 84 : 496-500.**

The hypothesis by Flemming that immunity might play a role in the inflammation of acne vulgaris dates back to 1909. Correlation between the severity of acne and antibody titre to *P. acnes* exists. In order to determine which structure in *P. acnes* is most antigenic to severe acne patients, the authors studied specificity of anti-*P. acnes* antibodies in serum from 15 nodulo-cystic acne patients and 5 normals. The mean titres of antibodies in patients and normals, to whole cells were 39.6 and 3 ( $P < 0.1$ ) : to crude cell wall, 138 and 8 ( $P < 0.01$ ) : and to protein and nucleic acid-free cell wall, 225 and 9.33 ( $P < 0.001$ ) respectively. The mean precipitin titre to *P. acnes* cytosol was 2.7 for patients and 0 for normals. The antigen was also present in *P. acnes* culture-supernatants. The antigen was found to be resistant to nuclease, pronase and lysozyme treatment. It was precipitable with 20% ethanol; and was destroyed by sodium M-periodate. These findings are consistent with a carbohydrate structure.

**Bhushan Kumar**

**Penicillin hypersensitivity—is milk a significant hazard ? A review, Dewdney JM and Edwards RG : J Roy Soc Med, 1984; 77 : 866. (Abstract taken from Annals of Allergy)**

This is a very extensive review of the question of penicillin hypersensitivity with regard to the ingestion of cow's milk. It addresses the questions of whether low levels of penicillin or penicillin-related substances in milk can act as allergens to patients who are already sensitive to penicillin, or whether such products can sensitize the patient who is not already sensitive. After reviews of the literature, the authors express the view that there need be no undue concern about penicillin residues in milk. While it is possible that occasional individuals will

have such exquisite sensitivity that they will have problems from the ingestion of milk containing a minute amount of penicillin, from a practical public health and cost point of view no immunological benefit is likely from lowering the acceptable levels of penicillin in milk since the possibility of a penicillin sensitive patient being adversely affected by cow's milk containing minute amounts of penicillin is extremely small and not a public health problem.

**Bhushan Kumar**

**Routine use of skin testing for immediate penicillin allergy to 6,764 patients in an outpatients clinic, Sarti W : Ann Allergy, 1985; 55 : 157-161.**

Because of fear of hypersensitivity reactions, penicillin injections have lately been administered with some reluctance. Fatal reactions occur at a frequency of 1/100,000. Because of this study or despite this, the fear of immediate anaphylaxis is the cause of this reluctance. Safe predictive methods for selecting persons who run the risk of manifesting an allergic reaction when treated with penicillin have been extensively studied. Skin tests with penicilloy-polylysine (PPL), penicilloic acid, sodium benzylpenicilloate, penicillin G or a minor determinant mixture (MDM) were reported to be promising indicators. The objective of the present study was to evaluate a routine, safe and reliable method on out-patients without taking into account a persons a history of hypersensitivity to penicillin.

A population of 6,764 individuals at an out-patient clinic was tested with MDM and penicillin G. Ninety six (1.4%) patients showed positive skin tests. The 6,668 patients with negative tests when treated with penicillin did not manifest any immediate allergic reaction. The probability risk of systemic reactions among patients with negative tests who were treated with penicillin was 1.5/million. The method of testing was found to be safe and simple.

**Bhushan Kumar**