In children the pleural effusion ranked highest in correction of tetralogy of Fallot repair, and transposition of great arteries repair using the Mustard and Senning procedures, with an incidence of 32.2% which was significantly higher than the rest of the paediatric cardiac surgical procedures using CPB (14%); p < 0.001. This is not unexpected as both the above mentioned procedures are well known to cause vena caval or pulmonary vein obstruction in some patients, thus producing postoperative bilateral pleural effusions.

In adults after coronary artery bypass graft (CABG) the incidence of pleural effusion was 24.3% as opposed to that of valve surgery of 15.4%; 0.02 < p > 0.01. This may be due to the fact that in CABG groups more than one-third (i.e. 178 of 579 patients) had left internal mammary grafts which are known to be associated with more pleuro pulmonary complications.6

During the CPB the use of blood in the priming for paediatric patients may be partly responsible for the escalation of pulmonary complications in this age group.7,8 The exact role of blood, however, can only be explored further by a prospective controlled trial.

The results of this study suggest a greater susceptibility of children to develop more pulmonary complications and at a lower threshold of duration of CPB, compared with adults in the same circumstances. It also reveals a preponderance of pleural effusion over other pulmonary complications in both adults and children.

Further studies may be required to explore and clarify the factors altering the dynamic equilibrium of the transport of fluids across the pleural membrane during and after CPB, which could account for a higher incidence of pleural effusion in our patients.

We are indebted to Dr William Sawyer (Administrator, Cardiac Department) for his assistance in this study.

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**Dramatic Effect of Cyclosporin in Generalized Pustular Psoriasis – The Effective Dose**

Sir,

We have used cyclosporin in the treatment of psoriasis for 5 years now, gradually prescribing it in more and more cases where previously our first drug of choice would have been methotrexate, hydroxyurea or retinoids, either alone or together with PUVA. As has been established worldwide, in the relatively low doses prescribed, namely 3–5 mg/kg body weight, this treatment is not only extremely effective in the majority of cases but, in our experience, has few significant side-effects and these have not persisted on cessation of treatment.

Until the present case, which we describe, we had no experience in treating severe pustular psoriasis of von Zumbusch type and, whereas prior to the availability of cyclosporin we would have committed to using methotrexate, steroids or retinoids and embarking on a hazardous period of treatment with uncertain outcome for the patient, results from cyclosporin therapy in this case were sufficiently impressive to warrant comment, in view of the low dosage given compared with previous reports in generalized pustular psoriasis.

The patient was a 23-year-old, Yemeni female who was referred as an emergency with a history of an eruption on the body developing initially 8 months previously. Her medical history revealed that some years earlier she had developed itchy papules on the skin when an oral contraceptive, which was not identified, was being taken. These resolved on stopping the pill. She had five children who were alive and well and there was no history of psoriasis in any of her family. Her general health was satisfactory. Her present skin problem had started 8 months before as itchy areas on the scalp. At that time she was 7 months into her fifth pregnancy. She was treated then with tar preparations but the problem persisted postpartum, gradually worsening and involving the trunk and limbs. She had received many treatments which could not be identified but these included, from the description, both injections and oral courses of steroids. Her skin problem had fluctuated but in the weeks prior to her referral to this hospital it had become increasingly severe with large red areas developing in addition to the more chronic lesions, and in the last few weeks small pus-filled blisters had appeared.

Examination showed an obese young female with a grossly Cushingoid face, oedematous limbs and
Letters to the Editor

generalized pustular psoriasis. There was classical pitting of the fingernails. She complained of general malaise. Laboratory tests showed WBC of 18 700/ml, ESR 44 mm/h, creatinine 87 μmol/litre, fasting glucose 6.5 mmol/litre, triglycerides 3.4 mmol/litre. A swab from a pustule showed no growth. Skin histology showed pustular psoriasis. Her weight was 69.1 kg and she was prescribed cyclosporin A 200 mg daily, Daktarin cream to the flexures and a bland emollient to other areas.

She remained unwell for 2 days although her temperature, which was remitting in nature, settled progressively becoming normal on the 4th day. However, after 48 hours there was significant reduction in the erythema and no further pustules developed on the skin. By the end of the 3rd day there was a dramatic improvement and by the end of 7 days she had no lesions which could be identified as psoriasis. Apart from her serum creatinine, which fell to 81 μmol/litre before returning to the previous level, she had no side-effects.

Pustular psoriasis of von Zumbusch type is a serious disease and one which is infrequently seen in skin departments. In this patient’s case it appeared that her condition was precipitated by injudicious prescribing of systemic steroids. The disorder is difficult to treat and may be fatal. In our case, the dramatic response to cyclosporin A suggests that this treatment should now replace previous forms of therapy and that the serious nature of the disease does not warrant higher doses as were prescribed in the case of Meinardi et al.1 Indeed, from our experience, higher doses than 5 mg/kg can result in erythematous plaques arising in the skin and it is interesting that the same authors found new lesions occurring on the relatively high doses prescribed in their case. We suggest these may have been a drug-induced Koebner effect. Again, it may be significant that the one patient in the series described by Marks1 which did not respond, was a generalized pustular psoriasis on a dose of 5 mg/kg, and the case described by Fradin et al.2 relapsed on attempted weaning from a high starting dose of 7.5 mg/kg. In our experience, a low dose is adequate regardless of the severity of the psoriasis, as seen in this case, and at such doses side-effects are insignificant and temporary. We do not now estimate blood cyclosporin levels as a routine, as it is not a useful monitoring procedure. The patient has stopped cyclosporin with no relapse of pustular lesions and no evidence of psoriasis a month later.

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Obesity and Osteoarthritis: A Retrospective Study in a Saudi Arabia Primary Health Care Centre

Sir,

Linder et al. (1991)1 presented the results of a retrospective study on obesity and osteoarthritis, and reported a significant difference in the Quetelet body mass index when comparing osteoarthritis females to controls (p<0.001). A similar comparison failed to detect a significant difference between osteoarthritis males and their controls (p>0.1). The authors mentioned that ‘the reason for this sex difference is not known’.

A different statistical analysis for the data might have helped in explaining sex differentials. For example, a two-way analysis of variance is usually used to study simultaneously the effects of two variables (presence of osteoarthritis, and sex) on a specific dependent variable (body mass index). In addition, an important advantage of a two-way analysis of variance is that it allows us to examine the effect of combinations of factors on the dependent variable. This combined effect is called interaction, and its significance can be tested statistically through the two-way analysis of variance.

An interaction represents an effect due to the joint influence of two factors over and above the effects of each factor considered separately.2 Table 2 in Linder et al.1 suggests the desirability of studying the interaction between the presence of the disease and sex of the patient. Plotting the mean Quetelet body mass index as the ordinate against the presence or absence of osteoarthritis on the abscissa gives a line with a much steeper slope for women than that which is found for men, and this gives support to the hypotheses that there may be an interaction. Whether it is significant can be determined by applying a two-way analysis of variance procedure.

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References

Sir,

The statistical design of our study (paired t-test) did not allow for sex differential or the study of sex as a determining factor in the development of osteoarthritis because it was a controlled study.

A different statistical analysis of the data may explain the sex differentials. Osteoarthritis should be seen as a dependent variable and obesity in that case as the independent one. If one chooses a two-way ANOVA test to support the claim that there is a significant interaction between sex and the disease on obesity, we get the following results.

References