role in this disorder. Not only the generalised exacerbation of psoriasis but also the chronic psoriatic plaques respond. The nature of the putative, epidermis-derived, stimulus-inducing T-cell activation and infiltration remains unknown.

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CD4 antibody treatment of severe psoriasis

Sir,—Dr Poizot-Martin and his colleagues (June 15, p 1477) suggest that CD4 monoclonal antibodies and peptide T could be helpful in the treatment of resistant psoriasis. We have initiated a phase I clinical trial of a CD4 monoclonal antibody in generalised severe psoriasis and we report this treatment in three patients.

The first patient, a 61-year-old man who had psoriasis vulgaris for 23 years, had a severe psoriatic erythroderma with a psoriasis area severity index (PASI) of 35 a few days before entering the study. He received daily 2 h infusions of CD4 antibody (clone BB14, murine IgG2a, 0.2 mg/kg per day) for 8 days. Clinical tolerance was very good, apart from chills during the first infusion. Improvement started on the fourth day of treatment and was greatest at day 30 (PASI, 12). He deteriorated progressively within a 2-month follow-up (PASI, 20).

The two other patients (aged 40 and 32), with disease duration of 10 and 13 years, respectively, had chronic psoriasis (PASI, 15 and 16). Previous treatments, including retinoids and methotrexate, had been withdrawn because of lack of efficacy and/or toxic side-effects. These patients received CD4 antibody (0.8 mg/kg per day for 3 days, then 0.4 mg/kg per day for 5 days). Clinical improvement was observed on day 8 (PASI, 10 and 8, respectively) and was greatest after 3-4 weeks (PASI, 0 and 4, respectively). In all three patients histological examination of healed skin lesions taken at day 30 showed an almost normal appearance of the skin architecture, with some signs of fibrosis but without any epidermal or dermal signs of psoriasis.

The pathogenesis of psoriasis is still unclear but recent studies have emphasised the role of activated CD4 cells infiltrating the lesional skin. The therapeutic activity of cyclosporin and our results with CD4 monoclonal antibodies support this hypothesis and suggest that CD4 cells may be relevant targets for immunointervention in the most severe forms of this disease.

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Detection of Chlamydia pneumoniae

Sir,—We were surprised by the information put forward by Dr Hahn and Ms Dodge (April 6, p 849) to indicate the sensitivity and specificity of enzyme immunoassay (EIA) and direct fluorescent antibody (DFA) techniques for detecting Chlamydia pneumoniae. They diluted a suspension of C pneumoniae and inoculated each dilution onto McCoy cell monolayers (in triplicate). After incubation, the number of inclusions in one set of monolayers was assessed; the second set of monolayers was swabbed and the swabs tested by EIA; and the third set was swabbed and the swabs tested by DFA. However, since the number of elementary bodies on the swab available for testing by EIA or DFA after swabbing a monolayer may bear no relation to the number of inclusions counted in the monolayer, and certainly have no relation to the number of elementary bodies expected at a particular dilution of the...
original suspension, it is impossible to conclude anything about the relative sensitivities of the tests. Furthermore, the conclusion that "there was good specificity for both EIA and DFA tests" when non-specificity from other microorganisms can be assessed only by testing clinical specimens is also misplaced. What Hahn and Dodge should have done, as we previously have for *C trachomatis*, is simple. After diluting a suspension of *C pneumoniae* (in triplicate) and inoculating the first series of dilutions onto McCoy cell monolayers to determine DFA, we have done the second and third of the comparable conditions mentioned above, excluding assessment in cell culture. Three EIAs ('Wellcozyme', IDEIA, and 'MicroTrak') detected *C pneumoniae* at a dilution of 10^-3 or 10^-4 of the original suspension, while at least 30 elementary bodies were detected at a dilution of 10^-2 by DFA ('Chlamydia-Cal TWAK'). Clearly, the DFA test is likely to be superior for clinical specimens containing small numbers of elementary bodies.

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**Spermatuulria and sex chromosome abnormalities**

Sir,—The examination of urine for spermatozoa was first recorded in 1928 for the assessment of sexual maturation. In a prospective study the mean age of onset of sperm production was found to be 13.3 years. A recent analysis of 1160 first morning urine specimens from 129 healthy German schoolboys revealed an increase in positive results from 6% prepuber tally to 92% at pubic hair stage 5 (Tanner), with a median age of first positive sperm production of 14.1 years. With the same technique in 21 boys with sex-chromosomal abnormalities, identified by cytogenetic screening of livebirths, sperm were found in the early-morning urine of 2 boys with mosaicism for *X* and in 2 with an additional *Y* chromosome, all at stage 5 genital maturity (G5) with testicular volumes of 15-25 ml (table).

<table>
<thead>
<tr>
<th>Karyotype</th>
<th>No</th>
<th>Age range</th>
<th>Pubertal stage*</th>
<th>Spermatozoon</th>
</tr>
</thead>
<tbody>
<tr>
<td>47,XY</td>
<td>10</td>
<td>10-18</td>
<td>G2-G5</td>
<td>0/10</td>
</tr>
<tr>
<td>47,XY</td>
<td>6</td>
<td>12-20</td>
<td>G3-G5</td>
<td>2/6</td>
</tr>
<tr>
<td>46,XY/47,XY</td>
<td>3</td>
<td>13-18</td>
<td>G5</td>
<td>2/3</td>
</tr>
<tr>
<td>48,XXXY</td>
<td>1</td>
<td>14-18</td>
<td>G4</td>
<td>0/1</td>
</tr>
<tr>
<td>45,XX/46,XY/47,XY</td>
<td>1</td>
<td>19-21</td>
<td>G5</td>
<td>0/1</td>
</tr>
</tbody>
</table>

*G1-G5 correspond to Tanner's genital stages 1-5.

While sperm counts in seminal fluid have not yet been attempted in view of the boys' ages, the examination of urine for the presence of sperm provides a simple non-invasive technique for assessing testicular function and, combined with serum testosterone estimation, contributes to the description of the natural history of these conditions as a baseline for prognosis and clinical management.

Although most men with a 47,XXXY karyotype would be expected to be azoospermic, proven paternity has been described and may be comparable to the short-lived fertility of a minority of women with Turner's syndrome. In such areas the possibility of storing and combining sperm samples at an early stage in the reproductive phase may be a successful strategy for those 47,XXY men who desire a child, although the percentage of abnormal sperm would need to be ascertained.

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