

*Technical methods*

antibodies to tetanus toxoid by agglutination of purified tetanus toxoid sensitised latex particles. *Vox Sang* 1975;28:238-42.

<sup>5</sup> Booth JR, Nuttall PA. A rapid automated latex screen for tetanus toxoid antibodies. *Vox Sang* 1978;34:239-40.

<sup>6</sup> Stoddart JC. The immunology of tetanus. *Anaesthesia* 1979;34:863-5.

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## Letters to the Editor

### Investigation into paediatric bilirubin analyses in Australia and New Zealand

I read with interest the paper by Watkinson, *et al* in your issue of January 1982.<sup>1</sup> This paper provides valuable information regarding standardisation of total bilirubin assays, however I cannot totally agree with comments by the authors on estimation of conjugated bilirubin. The authors maintain that conjugated bilirubin cannot be reported accurately and advocate ranking results as ( $\mu\text{mol/l}$ ):

- <25
- 25-50
- 50-100
- 100-150
- 150-200

stating "This approach should be adequate for patient care and not lead to over-interpretation of results."

The authors themselves show with three histograms in Fig. 2, that this is in fact not so. These histograms show clearly that it is not possible for laboratories to perform conjugated bilirubin assays accurately enough to place correctly a value in one of these ranks. In the two neonatal plasma samples assayed (samples D and E), number of labs = 75) the results fall into the first two ranks (D) and first three ranks (E). In the specimen assayed with the high conjugated value, results for the laboratories range from 0 to 150  $\mu\text{mol/l}$ —that is, the first four ranks.

With such large between-laboratory variation I feel it is meaningless to offer con-

jugated bilirubin results assayed by diazo techniques.

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#### Reference

<sup>1</sup> Watkinson LR, St John A, Penberthy LA. Investigation into paediatric bilirubin analyses in Australia and New Zealand. *J Clin Pathol* 1982;35:52-8.

Dr Watkinson and colleagues reply as follows:

Robert McKenzie's letter has given us the opportunity to further discuss the problem that exists in the measurement of conjugated bilirubin in neonates as shown in our paper (reference above).

Our survey clearly showed that there was a very wide dispersion of results for the measurement of conjugated bilirubin in plasma. From the limited information gained on conjugated bilirubin analyses we intended (a) to demonstrate clearly this dispersion and (b) to generate discussion on the need for conjugated bilirubin measurement.

It is our proposal that the need for this analysis requires review by the biochemistry laboratory and the clinical staff. Such discussion may as Mr McKenzie suggests result in the laboratory no longer offering a conjugated bilirubin assay but we feel that

from our data and discussion with some clinicians that this may be too narrow an outlook at present. Our suggestion was an intermediate stance which while giving clinicians the benefit of the assay, would also identify the state of the art and hopefully prevent overinterpretation of the results.

We felt that our recommendation on ranking was valid by the fact that a significant percentage of laboratories as shown below did rank the results correctly.

There is no doubt that the analysis should be improved. If laboratories react to our investigation and seek improvement in their performance then the ranking we suggested is probably acceptable for this seemingly necessary analyte.

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### Silicone lymphadenopathy

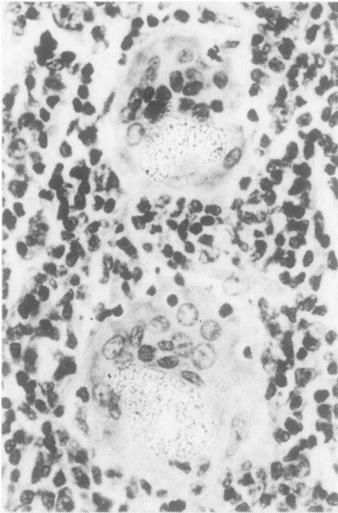
Silicone lymphadenopathy is a rare complication of silicone joint prostheses which may give rise to clinical suspicion of malignancy and be biopsied. It is important therefore that the surgical pathologist is familiar with this condition and the following case-report should be of interest.

A 60-year-old-man complaining of chest pain was found to have enlarged axillary lymph nodes and an opacity on chest radiography. Lung cancer with lymph node metastases was diagnosed and an enlarged axillary lymph node was biopsied. This showed numerous epithelioid and giant cell granulomata with refractile non-birefringent particles in many of the giant cells (Figure). No tumour was seen in the node but a transthoracic needle biopsy confirmed the diagnosis of pulmonary carcinoma. Enquiries about previous injections and operations on the arm revealed that the patient had had prosthetic finger

#### Laboratories ranking

$\mu\text{mol/l}$	Sample D (%)	Sample E (%)	High conjugated sample (%)
< 25	87	86	5
25-50	13	13	8
50-100	—	1	49
100-150	—	—	38

n = 75  
Sample D mean = 13  $\mu\text{mol/l}$   
Sample E mean = 14  $\mu\text{mol/l}$   
High conjugated sample mean = 87  $\mu\text{mol/l}$



*Axillary lymph node with giant cells containing refractile particles. Haematoxylin and eosin  $\times 300$  with substage condenser removed to enhance refractility.*

and wrist joints inserted seven years previously because of rheumatoid arthritis. The prostheses were made of Silastic brand silicone rubber. Silicones are organosilicon compounds consisting of a chain of alternate silicon and oxygen atoms with organic groups, usually methyl, attached to the other silicon valencies. In Silastic, various silica (silicon dioxide) additives are mixed with the silicone for strength and hardness and there are also small amounts of colour additives. The silicon content of Silastic exceeds 20% by weight. This should enable the fragments to be identified by microprobe analysis, a technique which only detects elements of atomic number over 23. The lymph node block was therefore deparaffinised, digested with hot (60°C) sodium hydroxide and the dried deposit examined in a scanning electron microscope equipped for energy dispersive x-ray analysis. This revealed irregular particles rich in silicon.

Silastic is widely used in bioengineering because it is strong and inert but there are rare reports of it exciting tissue reactions. Local reactions to silicone breast implants were reported by Symmers<sup>1</sup> and to silicone joint prostheses by Aptekar *et al*<sup>2</sup> and Christie *et al*.<sup>3</sup> This last group were the first to describe a patient with a foreign body reaction to silicone in lymph nodes draining joint prostheses. Two further cases of such silicone lymphadenopathy were described by Kircher.<sup>4</sup> The present case is

only the fourth to be reported. Subsequent to Christie's report it was emphasised that silicone rubber incites one of the most benign reactions to foreign material, and that complications of silicone joint prostheses are extremely rare.<sup>5,6</sup> Recently silicone derived from a prosthetic joint has been noted in a lymph node affected by malignant lymphoma<sup>7</sup> but the significance of this association is uncertain at present.

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#### References

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- 2 Aptekar RG, Davie JM, Cattell HS. Foreign body reaction to silicone rubber. Complication of a finger joint implant. *Clin Orthop* 1974;**98**:231-2.
- 3 Christie AJ, Weinberger KA, Dietrich M. Silicone lymphadenopathy and synovitis. *JAMA* 1977;**237**:1463-4.
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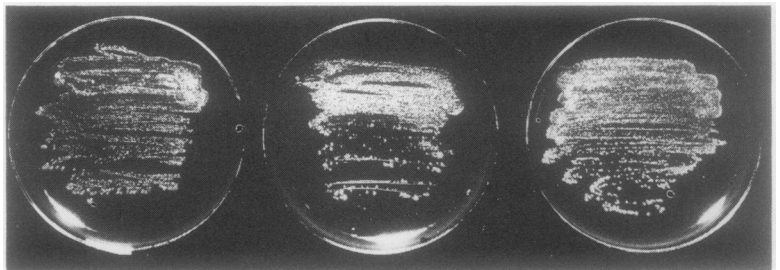
#### Recovery of *Neisseria gonorrhoeae* from clinical specimens after direct culture at 25°C and 28°C

It was recently shown that many isolates of *Neisseria gonorrhoeae* grow quite readily, albeit slowly, at temperatures as low as 25°C.<sup>1</sup> These findings were made on strains which had been initially isolated at the conventional temperature of 37°C. The

observations have now been extended to demonstrate that many isolates of the organism grow quite readily on plates which are inoculated from clinical material and incubated directly at 25°C.

These isolations were made from patients who presented at the Venereal Disease Control Clinic of Western Australia and were obtained from plates inoculated with discharges which were positive by direct smear examination. The swabs were placed initially in Stuart transport medium and plated on Thayer-Martin medium within three hours. With some specimens the swabs were streaked directly on a series of plates for incubation at various temperatures. With others, the swab was placed in a tube containing 1 ml of nutrient broth which was then agitated on a vortex mixer and single drop aliquots of the fluid were streaked out on the Thayer-Martin plates. This latter procedure provided a more quantitative count of the inocula. Plates were incubated in airtight containers with added moisture and CO<sub>2</sub>. Temperatures of incubation were 37°C, 28°C, and 25°C, and room temperature (circa 20-22°C) and were monitored by thermometers checked against standard instruments. The tests were made on 4 consecutive specimens.

The recoveries at 37°C varied from sparse to confluent growth in the primary streak areas. All plates incubated at 28°C yielded growth, the majority comparable that obtained at 37°C and the growth rate was approximately half that occurring at the higher temperature. At 25°C, 15 of the specimens examined failed to produce colonies and the majority of these were from specimens which yielded sparse growth at 37°C. Colonies developing at 25°C were variable in size and began to appear at about 2-3 days attaining diameters of 1-2 mm within 6-7 days. With many isolations where the recoveries were confluent, growth was obvious within 2 days. Subcu-



*Recoveries of *N gonorrhoeae* from urethral discharge plated directly on Thayer-Martin medium and incubated at 25°C for 7 days (left), 28°C for 3 days (centre) and 37°C for 2 days (right)*