range 0–75 nmol/l). She was treated with penicillamine 62·5 mg three times a day for 14 days; during this time her urine mercury concentrations fluctuated between 548 and 848 nmol/l. As expected this concentration fell very gradually and two months later (aged 1 year) it was 75 nmol/l. By this time her weight had increased to 6030 g. Her subsequent development was that of a normal happy girl who was difficult to feed initially.

In Martindale (1982) we are reminded that 'mercury or mercurial preparations should not be given to infants or applied to their skin as they may cause acrodynia'. *Meyler's Side Effects of Drugs* indicates that 'the use of mercury in dermatological therapy should be abandoned'.[4] Although no mercury preparations are listed in MIMS, I note that ammoniated mercury powder and mercuric chloride are listed in the *Drug Tariff* (1987) (DHSS), the *American Hospital Formulary Service Book* (1988); formulations are also found in the *Pharmaceutical Codex* (1977), which is still current.

References

1 Curtis HA, Ferguson SD, Kell RL, Samuel AH. Mercury as a health hazard. *Arch Dis Child* 1987;**62**:293–5.
2 Nicoll A. Mercury as a health hazard. *Arch Dis Child* 1987;**62**:1197.
3 Glover S, Nicoll A, Pullan C. Deprivation hands and feet. *Arch Dis Child* 1985;**60**:976–7.
4 Dukes MNG, ed. *Meyler's side effects of drugs*. 10th ed. Amsterdam: Elsevier, 1984.

E S Mucklow
St Mary's Hospital, Newport, Isle of Wight P030 5TG

Protective effect of BCG vaccination in infant Asians

Sir,

I read the article by Packe and Innes with special interest because I have been involved in BCG vaccination of Asian children both in this country and in India.[1] I am really surprised with their findings that BCG has a significant protective effect on Asian children as my own experience has been very disappointing.

In Patna, India, I followed up 90 children of the age group 1–12 who were found to be negative on prevaccination tuberculin testing and who did not show an accelerated reaction to BCG in the first seven days (BCG negative). All children were vaccinated by intradermal injection of 0·1 ml of reconstituted BCG vaccine supplied by BCG Laboratory, Madras, India, which uses the Danish 1331 strain of BCG. On serial tuberculin testing with 1 tuberculin unit (purified protein derivative, RT23 with Tween 80) every six months, I found that postvaccination tuberculin sensitivity appreciably decreased over an 18 month period (table).

Out of these 90 children six had developed tuberculous disease by 18 months. The criteria for diagnosis of tuberculosis in BCG vaccinated children were: (1) conversion of tuberculin negative child to positive; (2) increasing graduation of tuberculin reaction to greater than 10 mm; and (3) enlarged parahilar lymph nodes with or without parenchymal lesion on a chest radiograph. These findings made me think that immunity conferred by BCG is transient and probably does not last more than 18 months. Two years later (1982) while vaccinating school children in Blackburn I was not surprised to see that many school age Asian children had more than two BCG scars on their left deltoids and were still tine test negative. Other workers with BCG in developing countries have also had similar experience. Murtagh in Papua New Guinea found that 73·7% of the bacteriologically and histologically proved cases had already had BCG—some of them more than once.[2] The largest controlled field trial ever done on BCG in Southern India did not show any protective effect.[3]

References

1 Packe GE, Innes JA. Protective effect of BCG on infant Asians: a case-controlled study. *Arch Dis Child* 1988;**63**:277–80.
2 Murtagh K. Efficacy of BCG. *Lancet* 1980;**i**:423.
3 Anonymous. BCG: bad news from India. [Editorial]. *Lancet* 1980;**i**:73–4.

K K Singh
Southend Hospital, Prittlewell Chase, Westcliff-on-sea, Essex SS0 0RY

Drs Packe and Innes comment:

In his letter, Dr Singh raises a number of important issues regarding the efficacy of BCG vaccination. It is noteworthy that the results of studies on BCG vaccination in the newborn and in infants are more encouraging and consistent than are the results of BCG studies in older children and young adults (of which the South India study was a prime example).[1] This view is reinforced by the results of several recent studies sponsored by the World Health Organisation and by the results of our own study on infant

Table *Decreasing number of tuberculin positive cases after BCG vaccination (n=90)*

Tuberculin reaction	*No (%) of cases after six months*	*No (%) of cases after 12 months*	*No (%) of cases after 15 months*
More than 10 mm (positive cases)	54 (60)	33 (37)	19 (21)
Less than 10 mm (negative cases)	36 (40)	57 (63)	71 (79)