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CORRESPONDENCE

Correspondents are asked to be brief

Measles Vaccination and Tuberculin Test

SIR,—I would like to draw attention to an occasional sequel to measles vaccination which is not, I believe widely, known—namely, the temporary conversion of a positive tuberculin reaction to a negative one. That this may be of importance is illustrated by the following case.

A girl aged 1 year and 9 months was admitted to hospital on 1 October 1971 with a history of otitis media which had failed to respond to four days' antibiotic treatment. The diagnosis was confirmed, but despite continued treatment the child remained unwell. Eleven days after admission there was sudden deterioration and tuberculous meningitis was diagnosed on the cerebrospinal fluid findings. Acid-alcohol-fast bacilli were seen in the smear and the culture subsequently became positive. The chest x-ray remained clear throughout the illness, but despite treatment she died two months after diagnosis. Late diagnosis in this case contributed substantially to the fatal outcome, and one of the misleading findings was negative tuberculin tests, the tine test (5 October), Heaf test (15 October), and Mantoux test (1/1,000) (18 October) all being negative, though the 1/100 Mantoux test on 25 October was positive. The child had been given measles vaccine in the middle of August, approximately six weeks before her first attendance at hospital, and her mother volunteered retrospectively that she "had not been really well" since then.

Von Pirquet[1] reported in 1908 that a positive tuberculin skin test may become negative during measles, and in the days when primary tuberculous infection commonly occurred during childhood this fact was well recognized. Measles in a child with a primary infection was also believed to predispose to miliary tuberculosis or tuberculous meningitis. The present patient had no known contact with tuberculosis. Necropsy showed a small calcified focus in the right upper lobe with consolidation. There was no enlargement of hilar nodes and no generalized spread such as might account for a negative, or only weakly positive, tuberculin skin test. It seems likely that measles vaccination had resulted in a state of temporary anergy—that is, the effect was like that of an attack of measles, although there were no symptoms of measles.

In the Report of the First International Conference on Vaccines against Viral and Rickettsial Diseases in Man held in 1967 Dr. Coriell quoted the recommendation of the American Academy of Pediatrics that, where a tuberculin skin test is to be performed at approximately one year, it should be performed before measles vaccination so that positive reactors can be treated. He went on to say that "obviously the test should not be done after measles vaccination since the latter will create tuberculous anergy in a certain number of cases which may persist for a month or longer." He also referred to three cases of tuberculous meningitis which had occurred three to four months after vaccination.

Measles vaccination is obviously of immmense potential benefit to the child population, but possible adverse effects under special circumstances should be borne in mind, particularly in view of the recent increase in childhood tuberculosis. There would seem to be a case for the Heaf testing of infants with known tuberculosis contacts before giving the vaccine and for considering tuberculosis in the differential diagnosis of any child who becomes ill after measles vaccination.—I am, etc.,

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1 Pirquet, C. von, *Deutsche Medizinische Wochenschrift*, 1908, **34**, 1297.
2 Pan-American Health Organization, *First International Conference on Vaccines against Viral and Rickettsial Diseases*, Washington, Pan-American Sanitary Bureau, 1967.

Measles Vaccination and the Nephrotic Syndrome

SIR,—Reactions to measles vaccination are apparently few,[1] and guidance on its administration has been given by you.[2] It is therefore of interest that we have encountered two children who developed the nephrotic syndrome after vaccination.

Case 1.—In December 1971 a 21-month-old boy was immunized against measles. Nine days later he developed generalized erythema involving mostly the trunk and arms, swelling of the eyes, scrotum, and penis. He was treated with antihistamines and his rash abated within 48 hours, but he was noted to have peripheral oedema and ascites. His past history was negative except for eczema in his first year. He had been well for many weeks, had received no drugs, and had not been in contact with any infectious diseases. Investigations showed: Hb 12.6 g/100 ml; W.B.C. 14,300/cm,^{3} with neutrophils 61%, lymphocytes 36%, monocytes 3%. Platelet count was normal; E.S.R. (Westergren) 85 mm/1 hr; cholesterol 550 mg/100 ml; total protein 4.6 g/100ml, albumin 1.2 g/100 ml. Protein electrophoresis showed raised alpha-2 globulins and low gammaglobulins. Urine: massive proteinuria, mostly albumin.

The patient was treated with prednisolone, which was discontinued in June 1972. Since then he has been in remission.

Case 2.—A 4-year-old boy was admitted to hospital in October 1972 with relapsed nephrotic syndrome after acute follicular tonsillitis. Investigations showed: Hb 11.2 g/100 ml; W.B.C. 8400/mm^3—neutrophils 46%, lymphocytes 44%, monocytes 6%, plasma cells 4%. E.S.R. (Westergren) 90 mm/1 hr; cholesterol 215 mg/100 ml; total proteins 4.3 g/100 ml, albumin 1.6 g/100