

is exactly equal to that indicated by the Moro test for the whole group of children tested. Analysing the lesions shown post mortem, in those dying of other causes 94 per cent. had T.B. glands, abdominal, thoracic, or cervical; of those dying of tuberculosis 70 per cent. showed mainly an acute or subacute illness, associated with old caseating or calcified glands. Hence the obvious importance of taking these school-children with their very probable glandular lesions, and so treating them as to obviate any further development of disease.

Harnburger's observations show the contrast with less favoured countries. He found in different groups of cases under fifteen years between 63 per cent. and 70 per cent. of tubercular lesions. Excluding deaths directly due to tuberculosis, one group between eleven and fourteen showed 53 per cent. of T.B. lesions.

In a recent investigation on Ontario school-children with the intracutaneous tuberculin test 32 per cent. gave a positive reaction.

In this connection it is of passing interest to note the New Zealand post-mortem figures for adults—26.9 per cent. showed tubercular lesions; excluding deaths due to tuberculosis, the figure is 19.5 per cent.

(b) *Influence of Various Factors on Incidence.*

Family History and Exposure to Infection.—An attempt has been made by personal interviews with parents to ascertain the influence of family history. One realizes that there is some diffidence in giving this information, and that the percentage should probably be higher. The results are of value, however, in indicating that it is exposure to infection rather than merely a family history which has an influence over the incidence. Of the total number giving a positive reaction, 69 per cent. gave no family history or history of exposure to infection. Of the remaining 31 per cent. there was a positive family history, but 66 per cent. of these also gave a history of exposure. These figures were obtained for Wellington. Canterbury gives very similar results. Taking those children of the original group who had positive family history, 61 per cent. gave a negative reaction. Of the remaining 38 per cent., history of exposure was given in 66 per cent.

Past History.—There was no indication that a previous history of measles or whooping-cough gave a greater liability to infection, since in both positive and negative cases the percentage incidence of these complaints was the same.

Environment.—The environment of these children has been classified according to general home conditions, ventilation, sunlight, and locality into three grades—(1) superior, (2) average, (3) poor. Contrary to expectation, the percentage from the poorer homes is only slightly higher than that from better homes: Of the first class, 31.4 per cent.; second class, 33.5 per cent.; third class, 35.1 per cent.

Milk-supply.—There was no indication of the influence of milk-supply, about half the children having been supplied with pasteurized milk and half from private dairies.

(c) *Relationship of Nutrition to Positive Reaction.*

It was thought that the test might show a fair proportion of children classified as of subnormal nutrition to have latent tuberculosis. This has not proved to be the case. The nutrition of each case was estimated by a comparison of height and weight for age with the normal standard according to tables. The tables used were from Toronto, as their figures very closely accord with New Zealand figures for 1925. A comparison of the occurrence of subnormal nutrition in the two groups, positive and negative, show them to be equal—26 per cent. cases are 5 per cent. or more below normal; while the positives give a slightly higher figure for superior nutrition—8.9 per cent. and 6.9 per cent. who were 10 per cent. or more above normal.

FURTHER INVESTIGATION OF SELECTED CASES.

(a) *X-ray Examination.*

In Wellington all positive cases were X-rayed, together with a control group from those negative to the test. Twenty-two per cent. of positive cases showed definitely a past or a healing lesion. These, with two exceptions, were all in the hilar region. These two showed active tuberculosis of adult type—one of the lung parenchyma (a girl of thirteen), and the other a pleurisy in a child of five. The child alone showed clinically signs suggestive of active disease. Of the remainder, as a group, hilar shadows were larger, and showed calcified areas to a greater extent than in the controls, although some of these also showed abnormal hilar shadows, possibly due to causes other than tuberculosis.

(b) *Chest-examination.*

It was not expected that physical signs alone in the majority of cases would give sufficient basis for definite diagnosis. Two children were, however, found to have definite pulmonary tuberculosis. This represents 0.15 per cent. of the total tested. In a similar investigation at Ontario 1 per cent. were considered to be suffering from active disease.

A small group has been selected for special care and treatment, but in this selection consideration has been given to the history of the child, physique, and nutrition, together with physical signs and X-ray. This group represents 16 per cent. of positive cases, or 2.36 per cent. of the total number tested. None of these were considered to be suffering from active disease, but the general picture suggested a latent tuberculosis which might readily under adverse conditions become an active lesion.