Tuberculin Skin Testing of Children as an Effective Tool in Tuberculosis Casefinding

The marked annual decrease in the number of newly reported cases of active tuberculosis during the past ten years has been accompanied by a similar decreased effectiveness of chest x-ray mass screening as a tool in community tuberculosis case-finding programs. However, during the same period, tuberculin skin testing of pre-school and school age children, followed by a thorough examination of positive reactors and their immediate family contacts, has been found to be an effective casefinding instrument, particularly in the big cities, and especially in the slums and ghettos where high risk immigrants and migrants live in overcrowded and substandard housing.

With the continuing decrease in the prevalence of clinical disease and tuberculous infection, the significance of the positive tuberculin skin test becomes more important, especially among pre-school and school age children, because it has identified the infected high risk population. The younger the child with a positive tuberculin test, especially under the age of six years, the more probable that the source of the infection is in the home, among close household contacts—including babysitters. Older children, particularly teenagers, are more probably infected by a source outside the home, through non-household contacts, eg teachers, group leaders, young adults, etc.

The effective productiveness of a tuberculin skin testing program in children in identifying unsuspected active tuberculosis in the community, whether newly diagnosed or previously known, is directly proportional to the size of the tuberculin reaction, and the thoroughness of the follow-up examinations of contacts to determine the source of infection. Not infrequently, previously known and apparently inactive tuberculosis, with stable chest roentgenograms and fortuitously collected negative sputum cultures, has been found to be active during contact examinations.

In mass screening programs, 10 mm or more of induration to PPD-S (Mantoux) is a positive reactor, while 5-9 mm of induration is considered doubtful, and 0-4 mm of induration is read as negative. Much fewer cases of active tuberculosis will be found among the 5-9 mm of induration group and their contacts than among the larger reactor group in mass screening programs.

In this issue of Chest, Furcolow and associates (page 618) describe a 17-year experience with annual tuberculin skin testing of school children of various ages in Kansas City. Productivity in terms of casefinding by age group, size of reaction, household and non-household contacts, and retesting are reported and discussed. This article contains important data for pediatricians, and for physicians working with children in school health programs. This article is of particular significance at this time, because of the currently combined efforts of many groups to eliminate tuberculosis and tuberculous infection in children.

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Another Curse of Ondine

The discovery of alveolar hypoventilation usually directs investigation to the usual causes. These causes are either a defect in the musculoskeletal apparatus, chronic obstructive airway disease or a central nervous system disorder. These disorders must be severe before alveolar hypoventilation results.

When pulmonary hypertension and right heart failure are also present, greater probability exists for one of these three main causes of alveolar hypoventilation. Perplexing, however, is the situation where none of these causes can be established, and even more perplexing, if alveolar ventilation was not measured, and pulmonary hypertension and right heart failure are considered the sole disorder. Under such a circumstance undetected shunt from right to left, myocarditis, fibroelastosis and idiopathic pulmonary hypertension may be misdiagnosed. When all of these conditions have been ruled out, unexplained pulmonary hypertension and right heart failure is erroneously diagnosed.

A less obvious cause of alveolar hypoventilation has received recent attention. Overlooking this cause is easy and unless it is kept in mind may lead to fruitless investigations which end in an idiopathic diagnosis. This cause, to which I refer, is an obstructive lesion of the upper airways, in fact, in the nasopharyngeal and tracheal areas. Among lesions producing obstruction are marked enlargement of the tonsils and adenoids, laryngeal and tracheal stenosis and micrognathia and arthritic...