A striking feature of the case was an irregular conical opacity in the posterior part of the lens, situated axially between the embryonal nucleus and the normal position of the posterior pole. Broad and flat anteriorly it had an irregular posterior taper to an end like a trumpet mouth, at about the normal curve of the posterior surface. No connection between it and the actual surface could be seen, but possibly some fine threads may extend backward to the surface, concealed on account of the possible angle of observation. Except for its separation from the actual surface, and its irregular form, this opacity resembled one shown and described by Vogt (as figure 234 of his atlas).

In its anatomical characteristics as well as its mathematical ones, the conus in this case seems to occupy a position between Dr. Marsh's case and the one described by Vogt.

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INFRACLAVICULAR TUBERCULOUS INFILTRATIONS

MAURICE FISHBERG

Pulmonary tuberculosis in which the lesion is strictly localized to the apex is very common and, a point which has not been emphasized by clinicians is, that the prognosis in such cases is, as a rule, very good. It seems that apical lesions are usually sclerotic in character, remain dormant, only now and then having exacerbations, but recover quickly. It is very rare that a lesion limited to the apex should spread further down in the lungs and ultimately prove fatal. These patients usually live as long as the average individual, and when death ensues it is most likely due to some non-tuberculous disease.

Recent clinical observation tends to show that in active pulmonary tuberculosis the first or initial lesion appears in most cases in the region of the lung below the clavicle, most commonly in the upper lobe, but at times in the middle or lower lobe, and that these lesions are not of the indurative type just mentioned as characteristic of apical involvement, but of the exudative,

bronchopneumonic and finally caseous type. Physical signs are almost entirely lacking, and in the very beginning the constitutional symptoms may be very mild, hardly inconveniencing the patient for a long time. Only roentgen examination of the chest reveals these lesions, which have been called infraclavicular infiltrations by Assmann, who first described them in 1924.

The onset is usually insidious, the patient losing in weight and strength, coughs, and expectorates blood. In some cases hemoptysis out of a clear sky is the first symptom noted by the patient. A physical exploration of the chest may not reveal any signs of a localized lesion in the lungs, and the patient is told that he suffers from bronchitis, neurasthenia, etc. But in some cases a bacteriological examination of the sputum brings to light tubercle bacilli. A roentgenogram shows that the lesion is not in the apex but below the clavicle. The shadow seen in that region appears as a soft, cloudy, almost homogeneous patch the size of a cherry to that of a pigeon's egg in the midst of healthy lung tissue. The outer margin of the shadow is usually irregular, but now and then it is clear cut and sharply demarkated. These shadows are in many cases located near the periphery of the lung field, but are met with in exceptional cases in any place of the lung.

In a large proportion of cases the disease runs a mild, benign course; the infiltration is absorbed within a few months, hardly leaving anything to indicate its previous location; or linear shadows, characteristic of sclerosis, remain on the roentgenogram. More commonly, in progressive cases, the infiltration undergoes liquefaction and a cavity is formed. Now and then we meet with cases in which the cavity shrinks, at times it may even become completely obliterated. In others the infiltration spreads, involving the greater part of the upper lobe and we then deal with the usual tuberculous lesion seen in progressive cases. These isolated lesions, and isolated cavities, may be found in some cases in the lower lobe of the lung, in others the infiltration is seen to extend like a band across the chest, simulating an interlobar effusion.

Available evidence is in favor of considering these infiltrations as secondary or metastatic deposits of tubercle bacilli from old

dormant lesions acquired during childhood. In some cases the tuberculous infiltration is in itself not as large as it appears on the roentgenogram, but the shadow represents the perifocal or allergie reaction of the lung tissue to the invading infective agent.

These infraclavicular lesions are most commonly found in young persons between 15 and 25 years of age. It seems that they are more apt to occur in individuals who have been excessively exposed to tuberculous infection; who have lived with persons suffering from progressive tuberculosis; or who work with tuberculous material, as physicians, nurses and workers in pathological and bacteriological laboratories. Inasmuch as these seem to be the very earliest lung lesions, we may assume that they are found in this class of persons because these are the very ones that submit to medical, bacteriological and roentgenological examination earlier than others who have had no experience with this disease.

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WORK CAPACITY OF THE TUBERCULOUS*

GRANT THORBURN

After patients who have successfully carried on their curing leave the sanatorium and return to their families and home, they enter one of the most important periods of their cure. Either their disease is healed and they become an asset to themselves, their families and the community, or if a reactivation of their disease takes place, they return to their previous unfortunate status of incapacitation and are a distinct liability.

The group that meets this question at first hand and every day, includes the clinician in private practice who treats tuberculosis, the doctor in tuberculosis clinics, family physicians, and medical officers of industrial houses and corporations, for it is to them that the patient returns following his treatment in an institution.

* This paper will be published in full in the *American Review of Tuberculosis.*

They must advise the man or woman in regard to work, and watch them, and assume the responsibility of their health after the disease has reached a state that permits their leaving the institution.

Their stay in the sanatorium frequently is all too short and they return with their disease only patched up and their confidence impaired.

The advice to get a "light out-door" job is a fallacy, for with such a job it is impossible to earn enough to live in proper hygienic surroundings and obtain proper food. The patient that stays well is the one that realizes his limitations and lives his life accordingly. For patients with means it is a rather easy problem, but for patients without money it is a very difficult problem.

A study was made of 1,000 odd cases of whom 676 were included and careful records kept over a period of three years.

This group of people certainly need attention and realizing this, the New York Tuberculosis and Health Association felt that a study of industry, of available, selected jobs and the effect of vocational and medical supervision was well worthy of study. It was also planned to gain some information in regard to work available for these cases in the city, to watch their physical condition and disease and see if these patients would "stand up" better than those not supervised. We hoped that in this way we could diminish the liability of the patients to relapse, for we believed the percentage of relapses to be high. We also hoped to work out some index or classification of an individual's ability to do selected work, bearing in mind the example of the successful classification of the New York Heart Association.

Under a decreasing donation from the Laura Spellman Fund, a three-year program was worked out, and a highly organized vocational and medical and social service "after care" department was formed, known as the "Vocational Bureau." Careful records of all cases handled in the three years were kept. Complete medical examinations were made and the patients were examined before being sent to a job, while waiting for a position, and after receiving work. To do this, evening clinics were held and painstaking case work, home visiting and social service done on all cases. A complete study of this work will be published this summer.

Certain types of work were ruled out as being not indicated for patients suffering from this disease, such as heavy manual work, dusty trades, grinding, polishing, etc. We found, however, a great many industries in which certain positions were available for these patients, and we attempted to place them in selected jobs as nearly like their former work as possible, and held them under close medical supervision.

We got back about 450 patients of a total of 676 for a final examination over a period of three months to three years, and found that 42½ per cent. remained the same, 33.3 per cent. improved and 24.2 per cent retrogressed or died. Seventeen per cent. had a definite reactivation during the three-year period. We also compared a group of patients that were supervised at the bureau by a group that were not supervised. They were unselected as to stage and condition of disease except that no active cases were included.

We found that the supervised patients showed 35 more cases with the disease better, than those not supervised. We also found that many of these patients had complications in addition to their pulmonary tuberculosis. One hundred and eighty-one patients had one complication, 189 had two, 161 had three, and 59 had four or more, in addition to their disease.

A work classification was also prepared for the potential employee with tuberculosis. Three subdivisions were made in which it was shown whether the patient was considered feasible for full-time work, standing or sedentary, and finally, part-time.

We feel that this problem of after care is one of the most urgent questions to face in our efforts to get the better of tuberculosis. It is of little avail to build institutions, increase beds and segregate the tuberculous for treatment, taking them away from their homes and families, if you have no further final constructive routine for them to follow when the progress of their disease is halted and their symptoms cleared up.