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TUBERCULIN TREATMENT BASED UPON CLINICAL AND BIOLOGICAL DATA

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The method is based upon the data presented in the preceding paper, and the administration is made in a manner to encourage the different biological combinations, which have been found to correspond, in the non-treated cases, with clinical improvement.

The principles underlying the selection of cases and the method of administration might be gathered together as follows:

(*a*) To improving (or stationary) cases, where the blood test shows a full inhibitive reaction, tuberculin is given in extremely small doses, with little or no increase, at about seven-day intervals, in all cases showing marked tuberculin sensitiveness; to all cases showing a tendency to tuberculin tolerance it is given in increasing amounts twice weekly. Occasionally this selection will include cases with fever. The tentative theory is that tuberculin sensitiveness may be maintained or increased, which, together with the inhibitive reaction, is one favorable biological combination, and by the second method tolerance may be aided, which with the inhibitive reaction is also a favorable biological condition.

(*b*) Cases whose blood shows complement fixation (to the alcohol-ether antigen) are never given tuberculin while this phenomenon remains.

(*c*) Certain cases whose blood test gives an indifferent result or merely a trace of the inhibitive phenomenon, present insufficient data for an exact selection of either method. Either method may be used according to one's judgment of which combination would likely develop under improvement. Further, as many of these biological results may be found with different clinical pictures, it is often not only a question of what method, but also whether tuberculin should be given. In our opinion usually it should not.

(*d*) It has been found by practical experience that those showing the second combination under heading (*a*) stand with benefit slight general reactions. For the second method we have used Koch's old tuberculin for the first bacillen emulsion.

(*e*) It will frequently be found that cases giving the combinations under heading (*a*) do not do as well as might be expected. In these cases we think we have a direct indication for autogenous vaccines.

Although this method of tuberculin administration (and vaccine therapy) has been used by us with a great number of cases for several years, there seems

to be no way in which a statistical study can justly be made. That is, we have on untreated cases no comparable data, in which other circumstances incident to the welfare of the patient were sufficiently under control to give the statistical result a real value. Indeed, such a study of the results of any treatment for tuberculosis is almost necessarily confined to sanatoria, in which the full control of all the circumstances must be very ideal, and the numbers of each group large. Further, it does not seem logical to us to draw conclusions from results obtained after the patients have left the strict conditions necessary for proper comparison. To draw up statistical results based upon the condition of patients after they have passed from full control introduces an unknown factor large enough to offset the value of the comparison.

In fact, publications either for or against tuberculin administration base their conclusions, especially if extreme, on an opinion for or against rather than upon any convincing statistics. Under our circumstances we prefer to state that we favor tuberculin in selected cases. Further, we feel that the above method is based upon both laboratory data and clinical judgment, that it gives a means of excluding cases, of selecting cases for either of two methods, and still allows considerable individualism.

This method of selecting the case and the manner in which the tuberculin is to be administered is in use at the Tuberculosis Clinic at the Toronto General Hospital for all cases, irrespective of the type or location of the lesion. It is hoped in this way to determine if it can practically be applied where often different physicians have to continue the treatment.