

INTERPRETATION OF RESULTS OF ACTH AND CORTISONE THERAPY IN CHRONIC BERYLLIUM POISONING

Data Obtained by Pretherapy and Post-Therapy Studies of Pulmonary Function

GEORGE W. WRIGHT, M.D.

TRUDEAU, N. Y.

THE CASE reports presented this morning and especially those which you have just listened to indicate that we are dealing with a group of individuals each of whom has a pulmonary disease characterized by clinical, physiologic and roentgen manifestations that are common to the entire group. There is some question in my own mind, however, as to whether or not these cases have a common cause. The only time that I feel reasonably certain of the diagnosis of pulmonary granulomatosis of beryllium workers is when the patient is typical in all clinical respects and in addition comes from an area in which the disease is known to have been produced in others. The considerable variation of the physiologic data of Dr. Ferris' cases and the fact that Dr. McClement's last patient did not respond at all to ACTH, whereas the others whose cases have been reported today showed a trend toward improvement, poses the question whether or not all the cases reported today are really cases of pulmonary granulomatosis. This question must be kept in mind when one attempts to evaluate the effects of cortisone or ACTH in the disease we are discussing today.

If you can bear with me, I should like to describe one more case, because it complements and extends some of the data that have been presented by the other speakers. The case is that of a 31 year old white woman who, it is considered, presents a genuine example of pulmonary granulomatosis since she has all of the common evidences of the disease and comes from an exposure known to have produced other cases proved to be instances of granulomatosis due to beryllium. She was given cortisone as shown in the data at the bottom of each of the graphs (figs. 1, 2, 3 and 4). Her chest roentgenograms, shown in figures 5 and 6, were typical, and, as can readily be seen, a distinct diminution of the abnormal shadows occurred under administration of cortisone. The pertinent data are given in figures 1, 2, 3 and 4. These may be summarized as demonstrating that the following changes occurred during treatment: (1) hemodilution; (2) gain of weight; (3) an increase of maximum breathing capacity that did not persist; (4) a slight increase of total lung volume; (5) elevation of arterial blood oxygen partial pressure (pO_2) and reduction of alveolar-arterial O_2 difference; (6) increase in the degree to which arterial hemoglobin was saturated with oxygen; (7) reduction of oxygen ventilation equivalent. These data are interpreted as evidence that cortisone definitely improved respiratory function and increased the work tolerance. The clinical and subjective improvement might be characterized as obvious. That there is a reversible element in this disease is proved by this case, since previous studies had

Read at a meeting sponsored by the Occupational Medical Clinic at the Massachusetts General Hospital, Boston, Dec. 13, 1950.