Pulmonary volume and ventilation measurements (chart 5) showed no significant change, but the blood studies demonstrated a rather striking improvement, which occurred gradually over the seven month period. The alveolar-arterial oxygen partial pressure difference decreased from 49 to 24 mm. Hg, which was still 10 mm. or more above normal. The arterial pO_2 rose from 66 to 86 mm. Hg, which corresponded to an increase of arterial O_2 saturation from 91.2 per cent to 94 per cent. The patient was clinically much improved and had less exertional dyspnea.

The subjective and objective improvement was definite despite the fact that the 17-keto-steroids excretion suggested a poor adrenal response to the ACTH. The explanation for this observation is not apparent.

CASE 5 (H. A., P.B.B.H. No. 6B-738).—This 39 year old patient worked as an electrical engineer in a fluorescent light factory for eight years prior to the onset of illness, and was exposed to beryllium during this period.

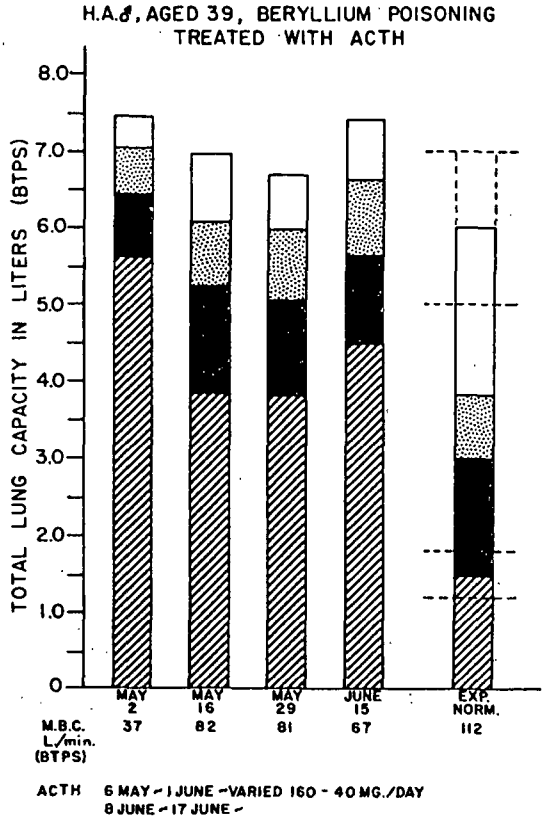

Chart 6 (case 5).—The patient's pulmonary volume subdivisions and maximum breathing capacity before and during ACTH therapy. See chart 1 for key to the subdivisions. The last column to the right indicates by broken lines (- - -) the limits of normal for the residual volume and the total lung capacity.

Four and one-half years before he was admitted to Peter Bent Brigham Hospital, cough and dyspnea developed, were gradually progressive, and were accompanied by a loss of 30 lb. (13.5 Kg.) in weight. Several months later his pulmonary function was extensively studied at Trudeau Sanatorium, Saranac Lake, N. Y., by Wright, and associates.[13]

13. Wright, G. W.; Filley, G. G.; Proemmel, D.; Frank, P.; Place, R., and Grinell, R.: Observations Concerning the Pathological Physiology Underlying Exertional Dyspnea in the Disease "Granulomatosis Occurring in Beryllium Workers": Symposium on Military Physiology, Digest Series No. 4, GE 61/1, The National Military Establishment, Research and Development Board, Dec. 4-6, 1947, p. 135.