A NEW TYPE OF ADRENAL TUMOR AND ITS COMPARATIVE HISTOPATHOLOGY

III. Serial Homologous Transplantation

BY JER K. MOHY, M.SC., PH.D. (Leeds)

(Biology Division, Cancer Research Institute, Tata Memorial Centre, Bombay-12, India)

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ABSTRACT

An undifferentiated adrenal tumor from a DMB-treated C₃H (Jax) female mouse was found transplantable in about 50% male and 75% female homologous animals used. The "takes" were better and faster in the females; the sex in which the tumor had originated. The latent period shortened with successive passages and was shorter for females. Histologically, the transplanted tumors resembled the original tumor but tended to be more pleomorphic, highly vascular, and showed increased mitotic activity. Evidence was found to show that testosterone which inhibits induction of adrenal tumors cannot prevent their proliferation.

INTRODUCTION

The induction and progressive development of this hitherto unclassified adrenal tumor have been described under Part II. The transplantation study was carried out for three reasons: Firstly, to find if the tumor was transplantable and to help establish its histogenesis. Secondly, to find if large subcutaneous growths would become secretory and affect the host animal by "corticoid" production. Thirdly, to study the growth pattern and other characteristics of the tumor kept under continuous transplantation over several passages; and to maintain the tumor in vivo.

MATERIALS AND METHODS

One of the large bilateral adrenal tumors from a 7:12 DMB-treated C₃H (Jax) female mouse described under Part II (Mody, Ibid.) was used. The tumor was transplanted subcutaneously by a fine trochar-needle in 10-12 weeks old homologous animals of both sexes. In all, 67 mice were used for transplantation through 6 successive passages (Chart 1).
The animals were palpated once a week near the site of transplantation so as to mark the beginning of growth. Usually, the growth could be felt with the finger tips when it was of pinhead size. This was considered as the time of tumor "take" for counting the latent period. The animals were killed when they looked emaciated due to the large tumors or because tumors frequently ulcerated through the skin.

RESULTS

The data on tumor 'takes', the latent period and the survival are shown in Chart 1. The grafts were successful in 21/41 male and in 19/26 female B4.