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tissue taken either directly from the mouse host or from the chorioallantois of a host chick embryo showed vigorous outgrowth of long spindle-shaped fibroblasts in 10 to 12 hours in plasma of non-immunized birds. On the other hand, when plasma of immunized birds was employed in the culture medium, the growth of tumor isolates from the mouse host was either completely inhibited for an indefinite period (antibody titer, 1:4) or occurred only after a delay of 24 to 48 hours (antibody titer, 1:2, or less). The delayed outgrowth comprised cells of a shape and migratory behavior considerably different from the normal. Instead of emigrating from the explant as slender spindle cells, the cells wandered out in rounded or oval form, or assumed the shape of a blunt spindle.

In contrast, fragments of tumor which had undergone passages on the chorioallantoic membrane of the chick embryo regularly showed outgrowth of spindle-shaped fibroblasts in immune plasma. At antibody titers of 1:2, or less, slight inhibition of growth of the explant was noted. Appreciable inhibition occurred in plasma of higher antibody titer, but cellular outgrowth was not completely suppressed.

The meaning of these observations, based on a study of over 300 explants is not yet clear, and the results should be confirmed and extended. It seems not unlikely, however, that complete or partial immobilization of tumor cells from the mouse host is achieved in tissue culture by a reaction between components of the cell surface and correspondingly specific components of the homologous immune plasma. Possibly passage of the tumor on the chorioallantoic membrane of the chick results in an alteration of the surface antigens of the tumor cell so as to diminish its reactivity with components of the immune plasma, thus permitting cellular migration to occur more readily. The suggestions will be tested in future experiments.

Increased Renal Reabsorption of Water in the Toad, Bufo marinus, in Response to Dehydration and Toad Neurohypophysial Extract.

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Mammalian neurohypophysial extract produces a striking increase in the tubular reabsorption of osmotically free water in frogs and toads (Sawyer, unpublished). This is sometimes accompanied by a reduction in filtration rate. Marked decrease in relative free water clearance (CH₂O /CCR) is invariably present and accounts for most of the decrease in urine volume.

Large male toads (100-500 gm.) were imported from Bermuda. Creatinine, inulin, and osmotic clearances were followed in unanesthetized toads with polyethylene cannulae in both ureters. This eliminated errors due to bladder reabsorption and dead space. Dehydration, or the injection of an extract of 1/100 of a toad pituitary into the dorsal lymph sac caused:

1) Marked antidiuresis.

2) A rise in creatinine and osmotic U/P.

3) A variable decrease in filtration rate (creatinine and inulin clearances were identical within the errors of the methods when they were measured simultaneously).

4) An invariable decrease in relative free water clearance.

The occurence of tubular antidiuresis in response to dehydration and to small doses of toad hormone suggests that this is a physiological pattern of response. Large doses of mammalian hormone (1-10 U/kg) are necessary to produce a comparable effect. This indicates significant class specificity of neurohypophysial principles.

Increased Reabsorption of Water from the Urinary Bladder of the Bullfrog, Rana catesbiana, in Response to Dehydration and Neurohypophysial Extracts

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Water disappears from the bladder of frogs and toads in response to dehydration (Steen, 1929) or the administration of neurohypophysial extracts (Ewer, 1951; Sawyer, 1955). This phenomenon might be attributed to increase permeability of the bladder wall or to increased cloacal or intestinal absorption. In these experiments we have sought to determine the site of water absorption.

Large male Lousiana bullfrogs (*Rana catesbiana*) were anesthetized by immersion in tricaine methanesulfonate (MS 222, Sandoz). A polyethylene cannula was inserted through the cloaca and secured in the neck of the bladder by a purse-string ligature. A solution of bovine albumin labelled with T-1824 was then placed in the bladder. Portions of this solution were withdrawn at intervals and the dye concentration measured. The loss of water calculated from the changes in albumin concentration correspoded closely to the decrease in measured volume, indicating that there was neither significant leakage nor loss of albumin from the bladder.

Water leaves the bladder of a well-hydrated frog at a slow rate, averaging 0.0136 ml/hr/cm² of bladder surface. Dehydration increases this rate to 0.0658 ml/hr/cm². Mammalian neurohypophysial extract (pituitrin, 20-100 U/kg) or an extract of bullfrog pituitaries administered to maximally hydrated frogs produces rates of reabsorption averaging 0.0656 ml/cm²/hr.

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