

**XXXI. MULTIPLE MILIARY EDENOMATA OF THE  
KIDNEY CORTEX WITH SPECIAL REFERENCE  
TO HISTOGENESIS**

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Recent interest in recasting our knowledge of the kidney has included among other things a study of tumors of the kidney and special attention has been given to the histogenesis of renal neoplasms. The medical literature was reviewed and various articles were found in which suggested classifications and origins of these growths were offered but so far no uniformity of opinion has been reached.

The purpose of this paper is to report a tumor which falls in the general classification of tumors of the cortex but the origin appears different from those reported in literature on this subject. In the study of this tumor an attempt was made to answer, if possible, the following questions:

(1). How do these tumors arise, from tubules which are continued from them or from glomeruli? (2). Do they represent

foreign formation unconnected with the other constituents? (3). How extensive are these tumors throughout the kidney? Are there miliary and sub-miliary foci in which the initial stages can be seen? (4). Is this to be interpreted as hyperplasia?

The usual histological method of serial sections, stained with eosin and hematoxylin was used in carrying out these investigations.

### Conclusions

1. These tumors apparently arise from glomeruli. The points of similarity between these tumors and glomeruli are as follows: (a) the general shape and appearance is that of a glomerulus; (b) the tumors consist of branching and anastomosing capillaries as seen in a normal glomerulus; (c) there is a definite capsule around the structure; (d) in some cases there are atypical tubules proceeding from the structure which is representative of the proximal convoluted tubule as it leaves a normal glomerulus. The chief points of difference are the following: (a) the capillaries instead of breaking up and anastomosing when they first enter the sub-capsular space in some instances follow up the papilla-like structures of connective tissue; (b) the epithelium of the capsule and also the epithelium of the capillaries of the glomerular-like tuft is cuboidal and even cylindrical columnar epithelium instead of simple squamous; (c) the tubules which leave the tumor are atypical in structure. However, this would be expected in the case of tumors.

2. These tumors do not arise from tubular epithelium as is shown by the fact that there is no arrangement of cells into tubules and also the structure of the cells is unlike that of tubular epithelium.

3. That these tumors do not arise from foreign "cell rests" of adrenal or other foreign tissue but arise from kidney substance itself is shown by the following facts: (1) the cells found here are different from those seen in adrenal tissue; (2) the arrangement of the cells differs from that of other foreign tissue; (3) the cells and arrangement of this tumor differ from cells of tumors reported in the literature studied; (4) the large number present would indicate that these are not cell "rests," as it is hardly probably that hundreds of these cell inclusions would be present in one or both kidneys as was true in this case.

4. The structure and appearance of these growths prove definitely that they are tumors and not hyperplasia.