

## ADENOMA OF THE SALIVARY GLAND \*

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Of the tumors of the salivary gland perhaps adenomas number among the most rare. In fact their occurrence was doubted by Volkman. In 1892, however, Nasse<sup>1</sup> in his work on "Tumors of the Salivary Gland" described a tumor which could definitely be classed as an adenoma. Previous to that time, many cases reported as adenomas of the salivary gland were, according to our present classification, obviously mixed tumors which, among other structures, contained areas of adenomatous character.

That adenomas of the salivary gland occur can no longer be doubted, for there are several cases (less than ten) on record which are sufficiently accurate in their description and obvious in their histology to establish definitely their identity as such. Because of the complexity of mixed tumors, one is not justified in classing any given tumor of the parotid gland as adenomatous without first subjecting the entire growth to a careful examination for any of the characteristics of a mixed tumor; for even though the bulk of the tumor is adenomatous, a minute area in which there is evidence of any characteristics of mixed tumors, such as cartilage, immediately designates that tumor as of the mixed variety. It may be possible, perhaps, that many of the mixed tumors are at first adenomatous; in fact one may ascribe the rarity of adenomas to the possibility that some of them become mixed before they are presented for histologic examination.

According to Lambret,<sup>2</sup> there are two types of adenoma of the salivary gland: intraglandular, in which the neoplastic tissue develops primarily at the expense of epithelial elements of the gland, and extraglandular, in which the adenomatous tissue arises in the ramifications of Steno's duct within the gland.

In the so-called extraglandular type, the canaliculi are dilated and stand out grossly or microscopically as cystic areas wholly or partially filled with epithelial proliferations. The papillae are made

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up of stalks of connective tissue growing from the wall of the duct and are covered with one to several layers of epithelial cells. Each stalk branches in a more or less arboreal fashion so that, as far as structure is concerned, it is similar to the well known papilliferous cystadenoma of the ovary. In certain areas the epithelium which is usually cuboidal becomes stratified and forms small projections which extend into the cystic cavity. These areas are found both along the papillae and the epithelial lining of the duct between the papillomatous projections. There is no tendency for the neoplastic tissue to break through the duct wall and invade the surrounding parenchyma. As can be expected, there are no acini in this extraglandular type.

In the intraglandular type we do not find the cyst formation nor does the adenomatous tissue assume a papillomatous architecture. Where the extraglandular type reminds one of the papilliferous cystadenoma of the ovary in structure, the intraglandular type is structurally reminiscent of the circumscribed adenoma of the thyroid gland. We find a highly cellular area containing acini both formed and formative, the whole surrounded by a definite connective tissue capsule.

It is this intraglandular type that is presented by our case of which a detailed description is here given.

#### CLINICAL HISTORY

The patient, a negro girl 18 years of age, was admitted to this hospital complaining of "a growth in front of the right ear." Three years previously, she noticed a small lump just anterior to the right ear. This growth gradually increased in size until it had reached its present dimensions (about that of a walnut). During the past year she complained for the first time of pain in this area, which was never severe and was always localized to the immediate area of the tumor. Except for three miscarriages, her history is otherwise negative.

*Physical examination* reveals a tumor about the size of a walnut in the right parotid region. It has definite borders, is firm in consistence and has a slightly irregular surface. It is not attached to the skin and is only slightly adherent at its upper pole to the underlying gland. It is not tender to palpation. There are no other glandular enlargements. The remainder of the physical examination is substantially negative.

*Operation.* With a diagnosis of "fibroma of the parotid," the patient was operated upon the following day. A small perpendicular incision was made directly over the tumor which was found just beneath the skin, only slightly embedded within the gland and surrounded by a well formed connective tissue capsule. It was easily enucleated, being found only loosely adherent at its upper pole to the underlying gland. The gland itself was apparently entirely normal.

### GROSS EXAMINATION

The specimen consists of a tumor mass about the size of a walnut with a small amount of glandular tissue attached to its upper pole. The tumor is well encapsulated and has a smooth, or slightly irregular surface. It is pale pink in color and has a firm elastic consistence. On section, it cuts easily and reveals a homogeneous, compact, cellular-appearing surface, brownish gray in color, with narrow bands of connective tissue running here and there throughout the tumor as though dividing it into lobules. There is an area of slight injection in that portion of the capsule which lies immediately adjacent to the neoplastic tissue. The entire tumor consists of one type of tissue.

### HISTOLOGIC EXAMINATION

Sections were stained with hematoxylin-eosin and mucus stains. The neoplastic tissue is composed of dark blue-staining cells, closely packed and ranging from spindle-shaped to round or oval. So marked are these features that one is inclined at first glance to think of a tumor of connective tissue origin (Fig. 1). Further examination reveals differentiation as described below.

The growth is surrounded by a definite capsule of rather broad dimensions with the only notable feature of having apparently two portions. The more peripheral is composed of old, dense connective tissue in which are contained a few blood and lymph vessels; the portion, much narrower but quite definite, immediately adjacent to the tumor is of much more recent development, and has a looser structure due to the distended lymph spaces and the greater number of blood channels.

Extending into the tumor are many prolongations of the more adjacent portions of the capsule, which form well defined septa dividing the tumor into irregular but definite lobules. Here and there near the periphery of the tumor are sundry isolated areas of the same kind of tissue as that making up the tumor. These areas are completely surrounded by young connective tissue and give the appearance of having been "snipped" off by the connective tissue fibers rather than of direct invasion (Fig. 2).

Each lobule besides being separated from the other lobules by the septa mentioned above, is surrounded by a delicate band of connec-

tive tissue more or less loosely approximated to the tumor cells. There is no evidence of any nutritional or nerve elements except for an occasional small blood channel.

The shape and arrangement of the tumor cells vary markedly. Some are definitely spindle-shaped with dark staining nuclei; others are polygonal; still others are rounded or oval with dark round nuclei and a proportionate amount of slightly granular cytoplasm (Fig. 2).

The definitely spindle-shaped cells tend to run in parallel lines but as they take on a polygonal and oval shape there is a tendency for them to be arranged in whorls. Many of these whorls are composed of solid masses of cells arranged in a circular fashion, but some contain spaces in their centers, forming thereby structures strongly suggestive of young acini. This impression is substantiated by the fact that in each lobule there are numerous examples of definite acini composed of cuboidal, typically glandular cells surrounded by a membrana propria and containing, as shown by appropriate staining, mucus in their lumina.

All through the tissue this tendency to the formation of acini is finally completed in the formation of the definite acinus described. The section is especially interesting from that standpoint. One sees, in a measure, a portion of the genesis of an acinus; first the spindle-shaped cells arranged in parallel rows, these gradually forming whorls as the cells take on oval or round shape; the formation of small lumina surrounded by closely packed cells with those nearest the lumen taking on an undoubted cuboidal, glandular appearance; and finally the enlarging lumen filled with mucus, the more definitely glandular cells, the membrana propria and the formed acinus.

The diagnosis is, therefore, adenoma.

#### SUMMARY

An adenoma of the parotid gland encountered in an 18-year old girl is reported. The duration was three years with slow growth and slight pain. It was encapsulated and microscopic examination showed the epithelial elements varying in their arrangement from undifferentiated columns of cells to formed acini.

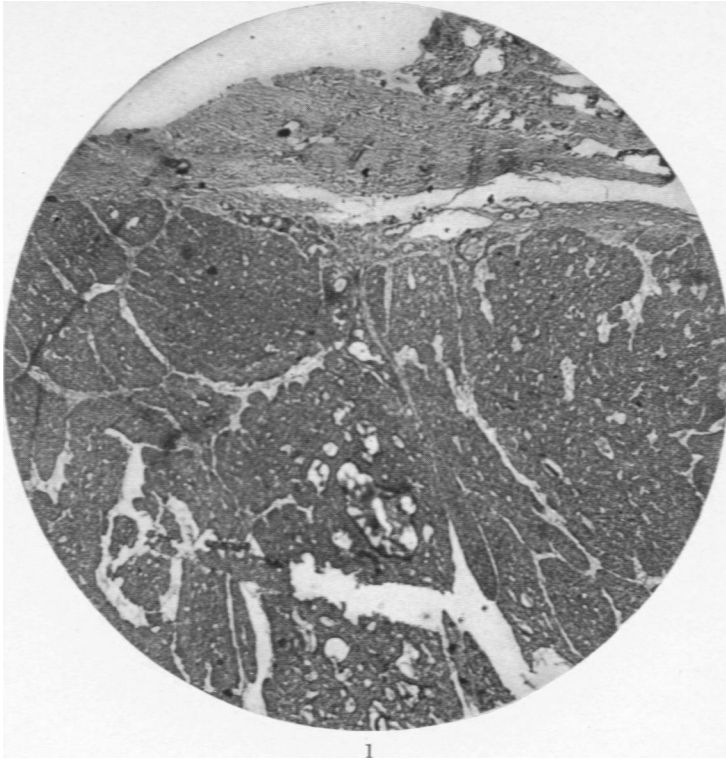
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## DESCRIPTION OF PLATE

## PLATE 26

- FIG. 1. Showing general topography of tumor. X 36.
- FIG. 2. Higher magnification showing clearly the various shaped cells making up the tumor and the formation of definite acini, many of which contain mucus in their lumina. X 166.



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Schutz

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