A CASE OF SPHEROIDAL-CELL CARCINOMA (SEMINOMA) OF THE EPIDIDYMIS

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The following case is reported because of the extreme rarity of this type of spheroidal-cell carcinoma (seminoma) in the epididymis.

![Spheroidal-cell Carcinoma of the Epididymis: Unopened Specimen. A. Epididymis. B. Testis](image)

CASE REPORT

The patient, Louis W., aged forty-eight, was admitted to the Sydenham Hospital (Case No. 19866), to the service of Dr. A. Lightstone, on Nov. 5, 1931.

1 Dr. Lightstone's kind permission to report this case is gratefully acknowledged.

875
History: One year previously the patient had observed swelling and some pain in the right testicle. There had been no trauma, and no inflammation. Venereal disease was denied. Recently the swelling had increased in size.

Physical Examination: The general condition was normal. The penis and left testicle were normal, but the right testicle showed a hard lump, the size of a hazelnut, at the upper pole, apparently involving the epididymis. It did not involve the skin, and did not transilluminate. A few "shotty" lymph nodes were palpable in the right inguinal region.

Preoperative Diagnosis: Carcinoma of testicle or tuberculosis of the epididymis.

Operation: On Nov. 6, 1931, under local anesthesia, the right testicle and the vas deferens as far as the internal inguinal ring were removed. The patient left the hospital Nov. 11, 1931, and returned later for deep x-ray therapy.

Pathologic Study

Gross: The specimen (7279) is a testicle with the epididymis attached (Fig. 1), the entire mass measuring $6.5 \times 5 \times 2$ cm. The testicle
measures $3 \times 1.5$ cm.; the epididymis, $3.5 \times 3$ cm. The testis appears normal except that it is compressed somewhat by the hard nodular epididymis above it. On section (Fig. 2) the cut surface of the testis is soft, homogeneous, and brownish-yellow; no nodules are seen in its parenchyma. A thick capsule separates it from the epididymis. The latter is firm, except for an occasional area of softening, brownish in color, and presents a fleshy sarcoma-like appearance identical with that seen in spheroidal-cell carcinoma of the testis proper.

*Microscopic*: Sections (Figs. 3–5) show that the epididymis is entirely converted into a neoplasm consisting of large cells, some of which are
round and others polyhedral. There is a distinct uniformity in the type of the cell, which has a clear cytoplasm with a large nucleus containing considerable chromatin material and in some cases filling almost the entire cell. These cells form large masses with no tendency toward grouping or alveolar arrangement. A small amount of stroma is present, and this is infiltrated with small lymphocytes. A few areas of necrosis are seen. Separating the epididymis from the testicle is a thick layer of fibrous tissue, which is not invaded by neoplastic cells. The testis proper is not infiltrated by the neoplasm, several sections failing to show

Figs. 4 and 5. Spheroidal-cell Carcinoma of the Epididymis. × 200 and × 300
carcinomatous involvement. There is, however, a good deal of fibrous
tissue in the testis, the tubules being atrophied.

**Diagnosis:** Spheroidal-cell carcinoma of the epididymis, not involving
the testis.

**Discussion**

A search of the medical literature shows that since 1881 there
have been twenty reports, presenting 23 cases of malignant neo­
plasms of the epididymis, as follows:

<table>
<thead>
<tr>
<th>Type of Tumor</th>
<th>No. of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sarcoma</strong></td>
<td>12</td>
</tr>
<tr>
<td>Sarcoma (unqualified)</td>
<td>4</td>
</tr>
<tr>
<td>Cystic sarcoma</td>
<td>2</td>
</tr>
<tr>
<td>Round-cell sarcoma</td>
<td>2</td>
</tr>
<tr>
<td>Melanosarcoma</td>
<td>2</td>
</tr>
<tr>
<td>Mixed-cell sarcoma</td>
<td>1</td>
</tr>
<tr>
<td>Chondrosarcoma</td>
<td>1</td>
</tr>
<tr>
<td><strong>Carcinoma</strong></td>
<td>7</td>
</tr>
<tr>
<td>Carcinoma (unqualified)</td>
<td>1</td>
</tr>
<tr>
<td>Columnar carcinoma</td>
<td>1</td>
</tr>
<tr>
<td>Squamous-cell epithelioma</td>
<td>1</td>
</tr>
<tr>
<td>Epithelioma</td>
<td>1</td>
</tr>
<tr>
<td>Basal-cell carcinoma</td>
<td>1</td>
</tr>
<tr>
<td>Adenocarcinoma</td>
<td>2</td>
</tr>
<tr>
<td><strong>Teratoma</strong></td>
<td>2</td>
</tr>
<tr>
<td>Teratoma (unqualified)</td>
<td>1</td>
</tr>
<tr>
<td>Malignant teratoma</td>
<td>1</td>
</tr>
<tr>
<td><strong>Seminoma (Embryonal Carcinoma)</strong></td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>23</td>
</tr>
</tbody>
</table>

Of these 23 cases, 2 are authentic cases of spheroidal-cell carcinoma
(seminoma or embryonal carcinoma) as evidenced by photomicro­
graphs. The case here reported is the third authentic case.

Some of the older cases up to twenty-five years ago are difficult
to pass judgment upon, as most of the histologic pictures are from
drawings. Also the nomenclature of this earlier period makes it
difficult to decide as to the exact character of the neoplasms. It is
probable that some of the sarcomata were really carcinomata. It
is also probable that such tumors as were called cystosarcoma and
chondrosarcoma may have been mixed tumors of the type to­day
called embryomata.

The only authentic cases of spheroidal-cell carcinomata are that
of Hinman and Gibson (Case 3), and that of Coleman, Mackie and
Simpson.
It is not our desire to enter into the controversy, as to whether there is but one malignant testicular tumor (teratoma), or two distinct types (embryoma and seminoma). By using the term spheroidal-cell carcinoma, rather than seminoma, the question of the origin of the neoplasm from cells of testicular tubules is avoided.

The neoplasm reported here is certainly identical with those of like histology occurring in the testicle. The presence of such a tumor in the epididymis need not, in our opinion, invalidate the idea of the development of such a tumor from the epithelium of testicular tubules, as it is not impossible that such tubules may have been misplaced in the development of the testicle. At any rate, it does not seem likely that the reported tumor developed from epididymal duct epithelium.

An interesting development in this case is the presence of a hormone reaction. Dr. Russel S. Ferguson, who was kind enough to perform the Aschheim-Zondek test, reported it strongly positive, and this despite the fact that the patient has been receiving deep x-ray therapy since operation. This would suggest that metastases have already occurred.

**Conclusions**

1. A case of spheroidal-cell carcinoma of the epididymis is reported. It is the third case to be described.

2. The tumor, in its gross and microscopic nature, is identical with the neoplasm of the same name that appears in the testicle.

3. The use of the term spheroidal-cell carcinoma avoids the controversy as to the origin of this tumor implied in the terms seminoma and embryonal carcinoma.

4. The Aschheim-Zondek reaction is a valuable aid in the prognosis of spheroidal-cell carcinoma of the testis and epididymis.

**Bibliography**

(Case reports of malignant neoplasms of the epididymis)