Mixed Gonadal Stroma Cell Tumor of the Testicle: A Case Report

Gerald B. Farrow

Arthur J. Johnson

Follow this and additional works at: https://scholarlycommons.henryford.com/hfhmedjournal

Part of the Life Sciences Commons, Medical Specialties Commons, and the Public Health Commons
Mixed Gonadal Stroma Cell Tumor of the Testicle

A Case Report

Gerald B. Farrow, M.D.* and Arthur J. Johnson, M.D.**

A specialized gonadal stromal tumor of mixed nature found in a 20-year-old Negro male is reported. Although the tumor had been present for six to seven years, there was no evidence of metastases or of hormonal imbalance. Reference is made to the confusing nomenclature of these rare tumors.

Teilum first reported and described tumors of the supporting tissues of the testis in 1945. He referred to these tumors as androblastomas, contending that they were morphologically identical to ovarian arrhenoblastomas. He felt that this term was applicable to mesenchymal core tumors arising from either the ovary or the testis.

We agree with Mostofi et al who preferred the term “tumors of specialized gonadal stroma” and will use Mostofi’s nomenclature here. (They felt that the term androblastoma implied too many assumptions of tumor origin.) Furthermore, since these tumors can be either feminizing or masculinizing the prefix “andro” can be misleading. The term “specialized gonadal stroma tumor” can be prefixed by an appropriate adjective to indicate masculinizing or feminizing characteristics.

An accurate review of the literature is difficult because of the confusion over nomenclature. Various authors refer to from 7 to 55 previously reported cases.

Case Report

A 20-year-old Negro male was seen August 1, 1968 in the Urology Clinic at Henry Ford Hospital for evaluation of a left scrotal mass that had been discovered during a pre-employment physical examination. He stated that the testicle had enlarged slowly over the past six or seven years and that, because of the enlargement, he had been rejected by the Army two years previously. He had sought no medical treatment and suffered no pain or discomfort.

With the exception of the left testicle, physical examination showed a normal appearing adult male. No feminizing characteristics were apparent. The testicle was about four or five times normal size, nontender, firm, solid, but not stony hard. When palpated, the mass seemed to be surrounded with fluid but could not be transilluminated. The epididymis and spermatic cord were normal. No lymph nodes were palpable. The pre-operative diagnosis was a testicular tumor with a small hydrocele.

Pre-operative laboratory studies showed a normal CBC, BUN, creatinine, VDRL, FBS, acid and alkaline phosphatase, and a negative pregnancy test (UCG). Chest x-ray and metastatic survey were normal. IVP demonstrated no deviation of the ureters.

At operation on August 7, 1968, the left testicle was explored through an inguinal incision, and a large testicular mass was found. It was surrounded by a small hydrocele that ruptured upon delivery of the testicle. High ligation of the cord and orchiectomy were performed.

The surface of the tumor was smooth and the tunica albuginea was unremarkable. The tumor weighed 180 gm and measured 8 x 6.5 cm. A cross section showed the tumor infiltrating most of the normal testicular tissue. The cut surface was bulging, lobulated, and yellow-pink.

Microscopic examination demonstrated no
evidence of spermatogenesis in residual seminiferous tubules which were pushed toward the surface by the tumor. Among the mixed cellular elements, the dominant cell type was a spindle-shaped stromal cell reminiscent of the normal ovarian stroma (Fig 1). Sheets of polygonal "epithelial" cells with elongated nuclei and fibrillar cytoplasm were seen, as were areas of attempted tubule formation (Fig 2). There were cells resembling Sertoli cells and a few scattered Leydig cells (Figs 3 and 4). Mitoses were infrequent.

The patient's postoperative course was uneventful. Reexamination some months later showed no evidence of local recurrence.

Discussion

According to Dixon and Moore,11 nongerminal tumors comprise 3.5% of all testicular tumors. Mixed gonadal stroma cell tumors comprise only 0.4% of the total, but they have attracted interest far exceeding their incidence.

According to Mostofi these non-germinal tumors arise from stromal cells that form the supporting network for the spermatogenic cells of the testis. As these stromal cells develop, they take the form of the supporting structures of the male or female gonad, so that Sertoli cells, tubules, Leydig cells, granulosa cells and theca cells can all be seen in the same neoplasm. Although the orderly formation of the structure is disrupted, the tumor may still contain all of the basic testicular elements.

Malignancy is quite rare and most authors reject radiotherapy unless there is evidence of metastases.

In the case presented, it is interesting to note that the lesion apparently was present for at least six or seven years. Teilum1 states that androblasto-

Figure 1
Photomicrograph showing testicular tissue that is compressed by the tumor consisting predominantly of spindle-shaped stromal cells. (50x)
Mixed Gonadal Stroma Cell Tumor of the Testicle

Figure 2
Photomicrograph showing sheets of polygonal "epithelial" cells with vesicular to elongated nuclei and fibrillar cytoplasm. (300x)

Figure 3
Photomicrograph showing Sertoli cells attempting to form a tubule. (300x)
mas appear to grow quite slowly and feminization may be noted quite gradually. He reported a case of 30 years' duration with gynecomastia only in the last year before surgical removal. Perhaps in time our patient would have demonstrated feminizing characteristics if his tumor had not been removed.

Photomicrograph showing Leydig cells in the center of the field. (300x)

REFERENCES