“New” Observations About “Old” Entities in Testicular Pathology: A Case Study Based Approach

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Learning Objectives

• Recognize the differences between benign and malignant testicular teratomas

• Understand the pathogenesis of pseudovasculitic lesions of the testis

• List the features of sarcomatoid YSTs

• Reliably diagnose regressed GCTs
A 17-year-old boy presents with bilateral testicular masses that on U/S are heterogeneous and hypovascular. Serum marker studies are negative and radiographic studies show no evidence of metastatic disease. Biopsy of the left testis is performed.
Testis: Epidermoid cyst
Testis: Epidermoid cyst
Normal tubules near epidermoid cyst
Testis: Teratoma
Testis: Teratoma
Testis: “Dysgenesis”
Ancillary testing

No evidence of 12p amplification in teratomatous epithelium
Dx: Benign, postpubertal teratoma, non-dermoid type
Recent work re: benign testis teratoma in postpubertal patients (Zhang et al.; AJSP 2013)

- 25 cases of dermoid cyst (n=10) and non-dermoid teratoma with benign features (n=15) in postpubertal patients (12 – 59 years)
- No 12p amplification in 18 of 18 cases
- Rx - orchiectomy (n=17) or local excision (N=6) only (no information – n=2)
- F/U in 17 cases, 5–168 mos (median, 89). All alive with 11 NED & 6 disease status unknown; no patient known DOD
Proposed criteria for benign postpubertal teratoma

- No cytologic atypia
- No GCNIS
- Intact spermatogenesis w/o tubular sclerosis/atrophy, scars or microliths
- No 12p amplification
- (Often prominent ciliated epithelium, squamous cysts, smooth muscle and organoid features)
Oocyte → MT

Meiosis I

Oocyte → PGC

PGC → GCNIS

GCNIS → S

S → EC

EC → A-T

A-T → CC

CC → A-T

P-T

Dermoid, Epiderm. Cysts; Rare Adult Teratomas

YST → A-T

A-T
A 44-year-old man developed testicular discomfort. An ultrasound examination showed a 1 cm hypoechoic focus in the left testis. An orchiectomy was performed. (A Victim Of Medical Imaging Technology [VOMIT], term courtesy Hayward R: BMJ, 2003 via Dr. DM Berney)

- 30 cases in patients 12-66 years (median, 33)
- Presentation: pain (15), mass (12), both (2)
- U/S: 14/18 - possible neoplasm
- Gross: hematoma, hemorrhage, or discrete nodules (necrosis)
- Micro: Hemorrhage, necrosis and vasculopathy [thrombi (27), intimal arterial thickening (22), fibrinoid vascular change (13), arteriolar hyalinization (7)]
- 20 patients with F/U – all NED (mean, 38 months)
A 36-year-old man underwent orchiectomy 5 years previously for a mixed germ cell tumor of the left testis. He had stage 2 disease and received cisplatin-based chemotherapy followed by RPLND, which showed metastatic teratoma. He recently developed back pain and CT scan showed a new retroperitoneal mass.