



The Creative Clinician

Multifocal Tumors of the Testis

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A 31 year-old man presented to the office complaining of left testicular discomfort and intermittent pain for the last month. There was no past medical or surgical history. The patient was unmarried and a smoker. His grandfather had a history of gastric cancer.

PHYSICAL FINDINGS

No testicular mass or abnormality was noted, but there was mild tenderness to palpation of the left testis.

After examination a provisional diagnosis of epididymo-orchitis was made. However, one would expect more pain as well as more swelling of the epididymis (the structure directly behind the testis which extends from the upper pole of testis to the lower pole).

Although the patient's signs and symptoms were not impressive, it was felt that he probably had an early epididymal orchitis. At times this can progress in severity to the point that requires hospitalization for intravenous antibiotics. Furthermore, in rare cases it can progress to abscess formation, requiring removal of the testis. In view of this, it was felt that conservative treatment with antibiotics, analgesics, and use of warm soaks tid was indicated, and therefore initiated.

Other studies ordered included: chest x-ray, urine analysis, and scrotal sonography.

The chest x-ray and urine analysis were normal.

Scrotal sonography showed the following unexpected findings:

Left testis:

- Small sonolucent area at upper pole, 0.5 cm
- 1.1 cm non homogeneous area (with a calcific focus) in the midpole region
- Multiple scattered calcific foci

R testis normal

The sonographic appearance of the larger lesion suggested the possibility of Leydig cell tumor. The smaller lesion could not be characterized.

The patient was called, was asked to come into the office as soon as possible.

Pre operative tumor markers were drawn

- Alpha fetoprotein : 14.7
- Beta hCG : 2.0
- LDH: 179

The patient underwent inguinal exploration of the testicular mass and radical orchiectomy was performed.

The initial post-operative diagnosis on gross examination was suggestive of embryonal carcinoma.

No lymph nodes were found.



Larger lesion with calcific focus.



Larger lesion.



Smaller lesion.

There was no extension of the mass through tunica albuginea. Further studies ordered included CT abdomen and pelvis PET.

Pathology Findings:

- Main tumor:
 - embryonal carcinoma
 - Invasion of tunica albuginea, limited to testis
 - No invasion to tunica vaginalis
 - lymphatic/ vascular invasion was noted
 - Intratubular foci of tumor were also seen

- Small tumor mass:
 - Seminoma, limited to testis

Other findings within the left testis:

- Intratubular foci of Seminoma
- Extensive Intratubular germ cell neoplasia, with foci of extratubular extension
- Leydig cell hyperplasia
- Atrophy

CT findings:

Left paraortic lymph node 1.4 x 0.8 cm at the level of left renal hilum.

No other retroperitoneal adenopathy.

Two non specific lymph nodes anterior to left external iliac vasculature measuring 1.2 x 0.9 cm, and 1.3 x 1.0 cm were seen.

A lymph node measuring 1.1 x 1.8 cm seen anterior to right external iliac vasculature.

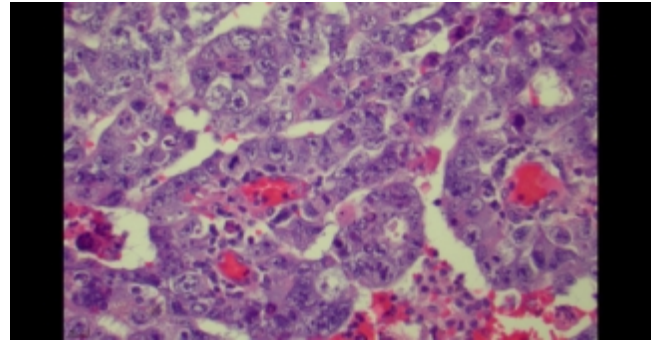
Bilateral non specific inguinal nodes also noted, largest was 1.5 x 0.8 cm.

PET findings:

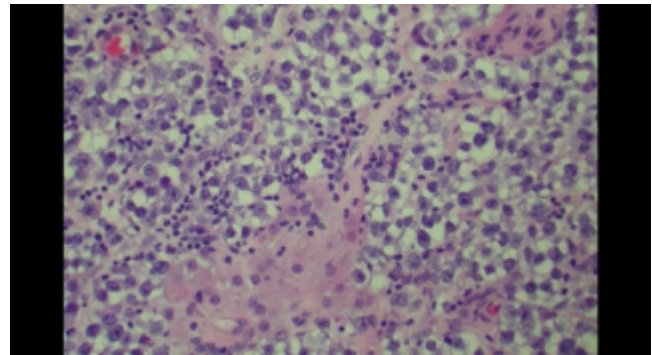
- Normal FDG uptake is seen at the scanned lower brain tissue, head and neck muscles and myocardium.
- Both lung fields, mediastinum and chest wall are normal.
- Normal concentration of physiologic tracer was found below the diaphragm, liver, spleen, pancreas, adrenals.
- Normal excretion of the tracer was also seen in both kidneys, small & large bowel.
- No definite FDG avid lymph nodes can be identified in the retroperitoneal, paraortic, or pelvic region.
- No definite evidence of bony lesions.
- No definite evidence of FDG avid residual or recurrent malignant disease was found.
- Post operative changes were found in the left inguinal region.

DISCUSSION

The patient was provided symptomatic treatment after his first visit; however, he was operated immediately when ultrasound was strongly suspicious for testicular tumor. Although the sonographic appearance suggested Leydig cell tumor initially, the ill defined margins of main tumor and presence of a smaller lesion raised the possibility of other malignancies; therefore we proceeded with inguinal testicular exploration followed by a left radical orchiectomy.



Embryonal carcinoma 20x.



Seminoma 20x.

Later a detailed pathology report revealed that the main testicular tumor was embryonal carcinoma and the smaller tumor was seminoma. The remainder of the testis showed extensive Intratubular germ cell neoplasia, with foci of extratubular extension. Leydig cell hyperplasia was also noted.

Computed tomography shows a few non specific nodes in the paraortic area, as well as lymph nodes seen anterior to external iliac vasculature, and inguinal areas bilaterally. However, Positron Emission Tomography shows no abnormal activity.

CONCLUSION

Sonography as a basic imaging modality is very helpful and reliable. In this case. Sonography provided very important information which led to the early decision of exploration and radical orchiectomy. Early diagnosis and intervention will prove vital in finding and treating malignant disease before it had the opportunity to metastasize.

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Disclosure of Financial Interests

The authors have no financial interests to disclose.

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