Glandular Lesions and Tumours in Uropathology

Case 1
Tubular and Blue

Sertoli Cell Tumour
Sertoli Cell Tumour (SCT)

- <1% of testicular tumors
- Up to 30% occur in 1st decade of life
- Not common hyperestrinism (gynecomastia)

- Surgery
- Prognosis excellent unless metastasis occur
Malignant SCT

• Around 5-10% of all SCT

• @ least 3 of the following:
  • **Mitosis** (>5 per 10 HPF)
  • **Atypia** (severe nuclear)
  • **Lymphovascular invasion**
  • **Infiltration of extratesticular tissue**
  • **Gross size** (>5 cm)
  • **Necrosis**
Malignant Sertoli Cell Tumors of the Testis
A Study of 13 Examples of a Neoplasm Frequently Misinterpreted as Seminoma

John D. Henley, M.D., Robert H. Young, M.D., and Thomas M. Ulbright, M.D.

FIG. 1. A sheet-like pattern is interrupted by fibrous septa containing a lymphoplasmacytic cell infiltrate. The tumor cells have pale cytoplasm, producing an overall appearance very reminiscent of seminoma.

FIG. 3. The solid tubular pattern focally present in this tumor helped in its classification as Sertoli cell tumor.
DDx of Sertoli Cell Tumour (SCT)

- By architecture
  - Tubular
Adenomatoid Tumor

- Location! Location! Location!
- BE AWARE

<table>
<thead>
<tr>
<th>Sertoli Cell Tumour</th>
<th>Adenomatoid Tumour</th>
</tr>
</thead>
<tbody>
<tr>
<td>CK, Vimentin, WT1, calretinin +</td>
<td>D2-40 +</td>
</tr>
<tr>
<td>β-catenin, inhibin, SF1 +</td>
<td></td>
</tr>
</tbody>
</table>
Case 1: Glandular lesions and tumours in uropathology

Sertoli Cell Nodule

- Non-encapsulated nodules
- Incidental microscopic findings
- Contain spermatogenic cells
Carcinoma

• Primary (transformed teratoma, *rete testis*) or metastatic
• BE AWARE

<table>
<thead>
<tr>
<th>Sertoli Cell Tumour</th>
<th>Carcinoma NOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>CK, EMA +</td>
<td></td>
</tr>
<tr>
<td>Vimentin, β-catenin, inhibin, SF1, WT1 +</td>
<td>Specific differentiation</td>
</tr>
</tbody>
</table>
Courtesy of Dr. M Colecchia
Case 1: Glandular lesions and tumours in uropathology

Tubular Seminoma
An Immunohistochemical and DNA Flow-cytometric Study of Four Cases

Angel Zavala-Pompa, MD,1 Jae Y. Ro, MD,1 Asiel E. El-Naggar, MD,1
Masul B. Amin, MD,1 Nelson G. Ordóñez, MD,1 Avishay Sella, MD,1
and Alberto G. Ayala, MD2

AJCP 1994; 102(4), 397-401
Seminoma

• Germ Cell Neoplasia In Situ (GCNIS)
• BE AWARE

<table>
<thead>
<tr>
<th>Sertoli Cell Tumour</th>
<th>Seminoma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vimentin, CK+</td>
<td>PLAP, OCT3/4, CD117, D2-40 +</td>
</tr>
<tr>
<td>β-catenin, inhibin, EMA, SF1 +</td>
<td></td>
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Case 1: Glandular lesions and tumours in uropathology

Unusual Patterns, Subtypes, and Differential Diagnosis of Gonadal Yolk Sac Tumors

R.H. Young and R.E. Scully

https://doi.org/10.1007/978-3-642-77852-0
Yolk Sac Tumor

- GCNIS in postpuberal
- Component of mixed GCT

- BE AWARE

<table>
<thead>
<tr>
<th>Sertoli Cell Tumour</th>
<th>Yolk Sac Tumor</th>
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<tbody>
<tr>
<td>CK+</td>
<td></td>
</tr>
<tr>
<td>β-catenin, inhibin, calretinin, SF1 +</td>
<td>AFP, glypican-3, SALL4+</td>
</tr>
</tbody>
</table>
Case 1: Glandular lesions and tumours in uropathology

DDx of SCT

• By architecture
  • Tubular
  • Cords, nests, solid sheets
Chromogranin
Carcinoid

• Majority are pure
  • 20% are associated with teratoma

• BE AWARE

<table>
<thead>
<tr>
<th>Sertoli Cell Tumour</th>
<th>Carcinoid Tumour</th>
</tr>
</thead>
<tbody>
<tr>
<td>CK, synaptophysin +</td>
<td></td>
</tr>
<tr>
<td>β-catenin, inhibin, SF1 +</td>
<td>Chromogranin, NSE, CD56 +</td>
</tr>
</tbody>
</table>
Granulosa Cell Tumor

- Adult and juvenile

- BE AWARE

<table>
<thead>
<tr>
<th>Leydig Cell Tumour</th>
<th>Granulosa Cell Tumour</th>
</tr>
</thead>
<tbody>
<tr>
<td>vimentin, inhibin, calretinin, FOXL2, SF1, S100, CK, synaptophysin +</td>
<td>CD56 +</td>
</tr>
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</table>

**β-catenin +**
Inhibin
Leydig Cell Tumor

• DDx Large Cell Calcifying SCT
• Pink

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<thead>
<tr>
<th></th>
<th>Sertoli Cell Tumour</th>
<th>Leydig Cell Tumour</th>
</tr>
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<tbody>
<tr>
<td>keratin</td>
<td>+</td>
<td>+/-</td>
</tr>
<tr>
<td>WT1, SMA(1A4)</td>
<td>+/-</td>
<td>-</td>
</tr>
<tr>
<td>S100 protein</td>
<td>+/-</td>
<td>+/-</td>
</tr>
<tr>
<td>Inhibin, calretinin, SF1, FOXL2</td>
<td>+/-</td>
<td>+</td>
</tr>
<tr>
<td>Melan-A</td>
<td>-</td>
<td>+</td>
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</tbody>
</table>

BE AWARE
Conclusions

• Sertoli Cell Tumor
  • Rare
  • 1/3 occurs in children
  • Malignant
    • 5-10%
    • have at least 3 MALIGN features

• Do not miss
  • Seminoma
  • Yolk Sac Tumour
  • Carcinoma
Acknowledgements

• Patients and their families
• Outstanding colleagues for sharing the cases

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