Bilateral cryptorchidism with right testicular seminoma and retroperitoneal metastasis
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Section: Uroradiology & genital male imaging
Area of Interest: Abdomen
Procedure: Contrast agent-intravenous
Imaging Technique: CT
Special Focus: Neoplasia Case Type: Clinical Cases
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Patient: 48 years, male

Clinical History:

The patient presented with abdominal pain. No history of recent trauma. Clinical examination revealed a large, solid right lower quadrant mass and empty scrotum. Vital signs, CBC and blood chemistry were normal.

Imaging Findings:

CT shows a large solid retroperitoneal mass with multiple enlarged retroperitoneal lymph nodes just inferior to the renal hilum. The left testis is atrophied and absence of spermatic cord bilaterally.

Discussion:

The most common sites of cryptorchidism are high scrotal (50%), canalicular (20%) and abdominal (10%), and bilateral (10%). The higher the testis is located (abdominal vs inguinal canal), the greater the risk of malignancy. Seminoma is the most common tumour in cryptorchidism. In general approximately 95% of malignant testicular tumours are germ cell tumours, of which seminoma is the most common histological subtype. Compared to the nonseminomatous germ cell tumours, seminoma occurs in an older patient population, with a mean age of approximately 40 years. These tumours carry a favourable prognosis due to their sensitivity to radiation and chemotherapy.

Approximately 75% of patients with seminoma present with disease limited to the testis, 20% have retroperitoneal adenopathy, and 5% have extra-nodal metastasis. Check the retroperitoneal lymph node (especially at the level of renal hilum) in all cases of cryptorchidism complicated by malignancy. Absence of the spermatic cord is an important clue for cryptorchidism. Other differential diagnosis of retroperitoneal masses in adults include enlarged lymph nodes from lymphoma or infectious processes, neurogenic tumours, sarcoma and fibrosis.

Treatment of seminoma involves surgical removal of the testicular primary, radiotherapy to regional nodes if there is local disease (stage I) or limited nodal para-aortic metastases (non-bulky stage II) and chemotherapy if there is bulky para-aortic lymph node involvement of more detent disease. Prognosis is good for all stages with a cure rate greater than 90%.

Take home messages:
1. The most common site of cryptorchidism is high scrotal, and the higher the testis is located (abdominal vs inguinal canal), the greater the risk of malignancy. The risk is greatest in cases of bilateral cryptorchidism.
2. Seminoma is the most common tumour in cryptorchidism.
3. Check the retroperitoneal lymph node (especially at the level of renal hilum) in all cases of cryptorchidism.
complicated by malignancy.

**Differential Diagnosis List:** Bilateral cryptorchidism with right testicular seminoma and retroperitoneal metastasis, Lymphoma, Metastasis

**Final Diagnosis:** Bilateral cryptorchidism with right testicular seminoma and retroperitoneal metastasis

**References:**


Description: Transaxial enhanced CT examination of the abdomen and pelvis in portovenous phase demonstrates multiple enlarged retroperitoneal lymph nodes just inferior to the renal hilum. Origin: Aldhilan Asim, Department of Radiology, national guard hospital, Riyadh, Saudi Arabia.
**Description:** Transaxial enhanced CT examination of the abdomen and pelvis in portovenous phase demonstrates large retroperitoneal solid mass. **Origin:** Aldhilan Asim, Department of Radiology, national guard hospital, Riyadh, Saudi Arabia.
Description: Transaxial enhanced CT examination of the abdomen and pelvis in portovenous phase demonstrates atrophied left undescended testis (arrow). Origin: Aldhilan Asim, Department of Radiology, national guard hospital, Riyadh, Saudi Arabia.
**Description:** Transaxial enhanced CT examination of the abdomen and pelvis in portovenous phase demonstrate absence of spermatic cord bilaterally (circles). **Origin:** Aldhilan Asim, Department of Radiology, national guard hospital, Riyadh, Saudi Arabia.