

## Oncology

## Intra-abdominal mass with empty scrotum in adult male

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## ABSTRACT

Cryptorchidism is one of the most common congenital anomaly affecting new born males. Early identification and management at 6–12 months is recommended. Occasionally adult male can present for the first time with intra-abdominal mass with empty ipsilateral scrotum. These tumors may present at advanced stage and management may be challenging at times.

## 1. Introduction

Cryptorchidism is one of the most common congenital anomalies affecting newborn males. The recommendation of early correction of cryptorchidism is supported by the fact of occasional development of advanced testicular cancer in later life. Intra-abdominal testicular cancer is complicated by absence of guidelines for management. Seminoma is most common tumor arising in intra-abdominal tumor. Orchiectomy, chemotherapy and retroperitoneal lymphadenectomy are the management options based on stage of disease.

## 1.1. Case history

50-year-old, married male presented to urology OPD with history of right lower abdominal mass for 4 months, gradually increasing in size for 3 months and rapidly growing for last 15 days. It was associated with dull aching pain in same area of mass for 2 months. There was no history of radiation of pain, no aggravating and relieving factor, not associated with fever, change in bowel habit, melena, weight loss or lower urinary tract symptoms. No history of Tuberculosis, Hypertension and Diabetes mellitus. General physical examination was essentially normal and per abdominal examination showed palpable lump in right iliac fossa of size 10 × 10 cm, well defined, smooth surface, non-tender, with limited mobility. Right scrotal sac was empty and left testis was normal. Epigastric region and left supraclavicular fossa was unremarkable.

Ultrasonography of abdomen and pelvis showed large heterogeneous approx. 10 × 9 × 8 cm solid cystic mass in RIF without internal vascularity, however exact origin was not confirmed. CECT abdomen

pelvis showed well defined round to oval approximately 10.1 × 9.7 × 8 cm heterogeneously enhancing lesion with scattered area of necrotic component in right lumbar region with vascular supply of gonadal vessels likely seminoma of undescended right testis (Fig. 1).

Serum tumor markers were LDH- 1187 (<460 IU/L), AFP- 5.17 (7.51 ng/mL) and B-hCG- 32.61 (<5.0 mIU/mL). With this clinical, imaging and laboratory findings seminoma in right undescended testis was diagnosed. Patient counselling and informed written consent for Right orchiectomy was taken. Open exploration was done with modified Gibson's incision on right side. Right testicular mass was mobilized all around and vessels were ligated and specimen taken out (Fig. 2). Post-operative course was uneventful. Histopathology report showed tumor dimension of 12 cm × 8 cm, sections of testicular mass showed nests of tumor cells separated by fibrous septa, tumor cells were mildly pleomorphic and had moderate amount of clear cytoplasm, and round nucleus with prominent nucleolus. Lymphatic invasion was focally seen, no perivascular and peri-neural invasion seen. Tumor infiltrates into tunica albuginea, spermatic cord is free of tumor (Fig. 3). All these features were suggestive of Seminoma stage pT2Nx. Further management options were discussed with patient and patient opted for chemotherapy and was planned for single dose carboplatin therapy.

## 2. Discussion

Cryptorchidism occurs in 1%–9% of full term newborn males and 1%–45% of preterm males making it, one of the most common congenital anomalies.<sup>1</sup> Cryptorchidism increases risk of testicular cancer 4 to 6 times in the ipsilateral gonad and if orchidopexy is performed

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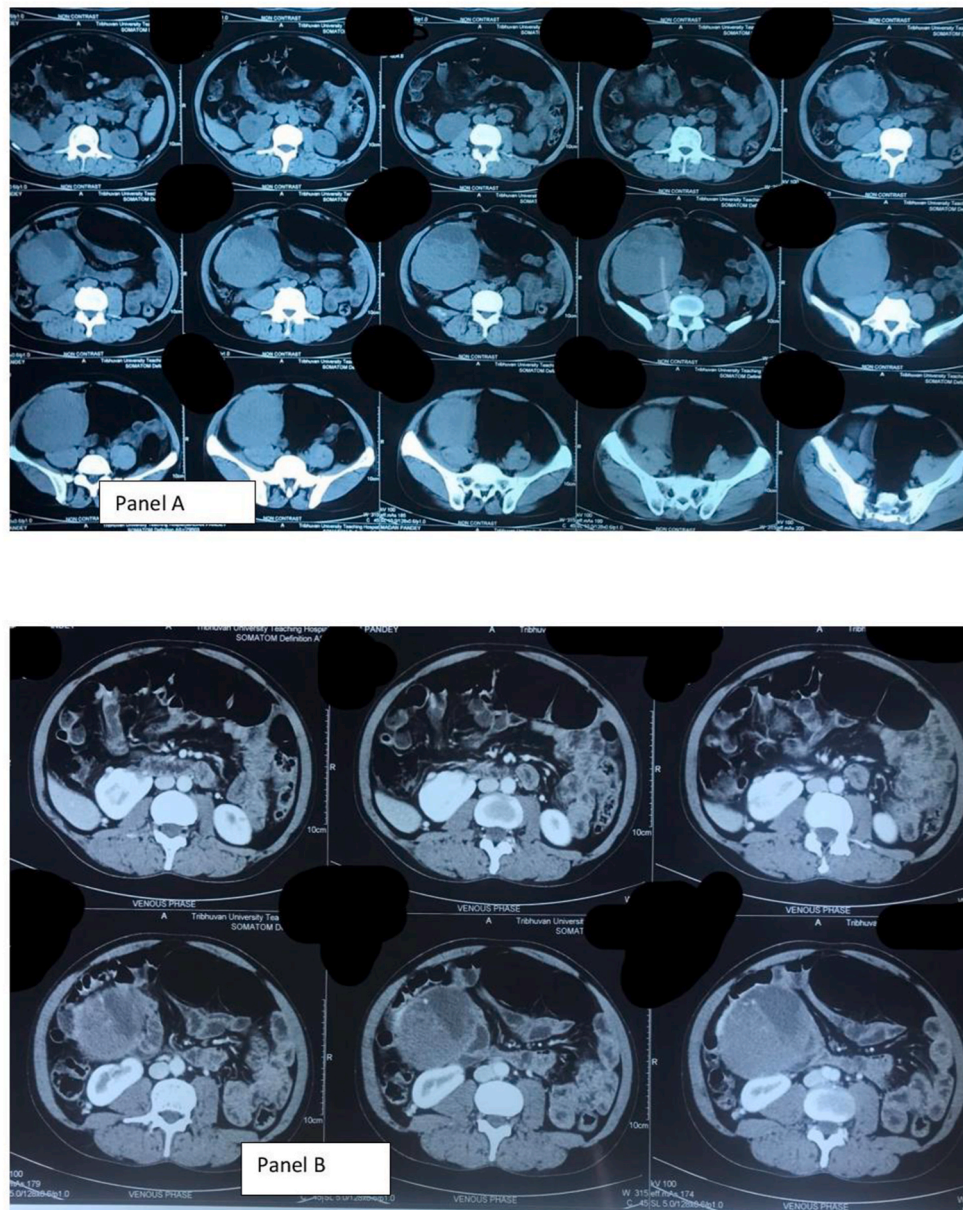
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**Fig. 1.** CECT abdomen pelvis axial images (Panel A – Non contrast images and Panel B- venous contrast phase) show heterogeneously enhancing lesion with scattered area of necrotic component in right lumbar region with vascular supply of gonadal vessels likely seminoma of undescended right testis.

before puberty the relative risk falls to 2 to 3 times.<sup>2</sup>

Of the total cryptorchid testis, intra-abdominal were in 3%–10%, canalicular in 16%–27% and majority were distal to external ring.<sup>3</sup> Compared to other undescended testis, intrabdominal testis confers the highest malignant potential.<sup>4</sup>

Intra-abdominal testicular cancer can grow to large size before clinical attention. Large size and delayed presentation may be responsible for advanced disease with lymph node and visceral metastases. Intra-abdominal testicular cancer is usually suspected in clinical context of intra-abdominal mass and empty ipsilateral scrotum. Cross sectional imaging with Computed Tomography with IV and oral contrast will help to identify the origin of mass, size and extent of mass, vascular supply of mass, status of retroperitoneal lymph nodes. Serum tumor markers help to classify seminomatous versus non seminomatous germ cell tumor. There are no guidelines particularly for management of intraabdominal testicular cancer. However, similar management strategy can be applied as of intra scrotal cancer. Large intraabdominal testicular cancer with large retroperitoneal lymph nodes may be managed with neoadjuvant

chemotherapy followed by orchidectomy and retroperitoneal lymphadenectomy at same setting. In these situations, serum tumor markers and biopsy can help to guide the type of chemotherapy. If intra-abdominal testicular cancer is localized and no retroperitoneal lymphadenopathy, then radical orchidectomy can be done first and managed further according to histopathology report.

Occurrence of these kind of aggressive tumor, strongly supports the current practice of early correction of undescended testis.

### 3. Conclusion

Intra-abdominal mass in context of empty scrotum should alert for intra-abdominal testicular tumor. Adult with intra-abdominal testicular tumor usually present at advance stage compared to intrascrotal testicular tumor. Cryptorchidism needs to be managed at early age preferably at 6 months for prevention/early detection of these kind of tumor.



Fig. 2. Intraoperative specimen of right Testis with spermatic cord and multiple enlarged superficial vessels (Panel A). Right Modified Gibson Incision (Panel B).

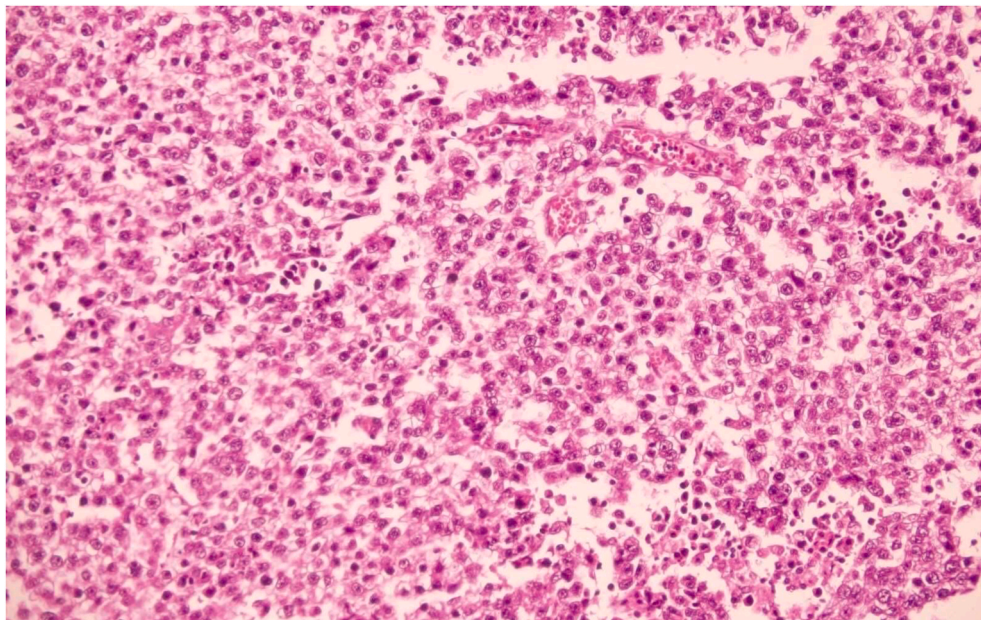


Fig. 3. Nests of tumor cells separated by fibrous septa, tumor cells were mildly pleomorphic and had moderate amount of clear cytoplasm, and round nucleus with prominent nucleolus.

**Declaration of competing interest**

Authors have no conflict of interest to disclose.  
 Consent from patient taken for publication without the disclosure of identity.

**References**

1. Sijstermans K, Hack WW, Meijer RW, et al. The frequency of undescended testis from birth to adulthood: a review. *Int J Androl.* 2008;31(1):1–11.
2. Wood HM, Elder JS. Cryptorchidism and testicular cancer: separating fact from fiction. *J Urol.* 2009;181:452–461.
3. Cendron M, Huff DS, Keating MA, et al. Anatomical, morphological and volumetric analysis: a review of 759 cases of testicular maldescent. *J Urol.* 1993;149(3):570–573.
4. Ford TF, Parkinson MC, Pryor JP. The undescended testis in adult life. *Br J Urol.* 1985; 57:181–184.