SJIF Impact Factor: 5.464

WORLD JOURNAL OF ADVANCE HEALTHCARE RESEARCH

ISSN: 2457-0400
Volume: 5.
Issue: 4.
Page N. 135-139
Year: 2021

Case Report www.wjahr.com

PRIMARY MALIGNANT NEOPLASM OF UNDESCENDED TESTIS PRESENTING AS INTRA-ABDOMINAL MASS IN AN ADULT MALE

Dr. Girish L.*, Dr. Juvaina P., Dr. Devarajan E., Dr. Naufal P., Dr. Saanida M. P. and Dr. Rahul K. R.

Junior Resident, Assistant Professor, Professor and HOD, Associate Professor, Assistant Professor, Assistant Professor, Government Medical College, Kozhikode, Kerala, India.

Received date: 24 May 2021 **Revised date:** 14 June 2021 **Accepted date:** 04 July 2021

***Corresponding author: Dr. Girish L.**

Junior Resident, Government Medical College, Kozhikode, Kerala, India.

ABSTRACT

Undescended testis is most common congenital genitourinary tract anomaly in male and associated with multiple complications. Undescended testis carries high risk for malignnacy with intra abdominal location carrying the highest. Imaging such as USG, CT and MR plays an important role in identifying the location and charcterisating the abormalities. Accurate preoperative diagnosis and staging by imaging is necessary to decidemode of treatment.

KEYWORDS: Undescended testis, malignancy,USG,CT, MRI, staging.

INTRODUCTION

CASE REPORT

CLINICAL HISTORY

A 43 years old male patient, known case of hypertension and rheumatic heart disease status post mitral valvotomy presented with history of gradually progressive abdominal pain predominantly over right side and radiating to back and right groin. No history of fever, vomiting, altered bladder or bowel habits. Per abdomen exaimnation revealed palpable hard mass in right iliac fossa.

IMAGING FINDINGS

Patient was further evaluated with Contrast Enhanced CT (CECT) sections of abdomen and pelvis. CECT showed an ill-defined heterogeneously enhancing large soft tissue density lesion in right iliac fossa (Image 1 and 2), extending along right inguinal canal inferiorly and blind ending at the level of root of right hemiscrotum (Image-3). Lesion showed multiple calcific foci within (Image-1) and infiltrating right distal ureter causing upstream hydroureteronephrosis (Image-6 and 7), dome of urinary bladder inferiorly and ileal loops superiorly (Image-5). Right testis is not imaged in right hemiscrotum (Image-8). Multiple enlarged right para aortic lymph nodes (Image-4) are observed with mild ascites (Image-2).

Retrospective ultrasound study showed- heteroechoic lesion in right iliac fossa (Image-10) extending through right inguinal canal up to the root of right hemiscrotum (Image-11) as a blind ending lesion with non-visualisation of right testis in right hemi scrotum (Image-12).

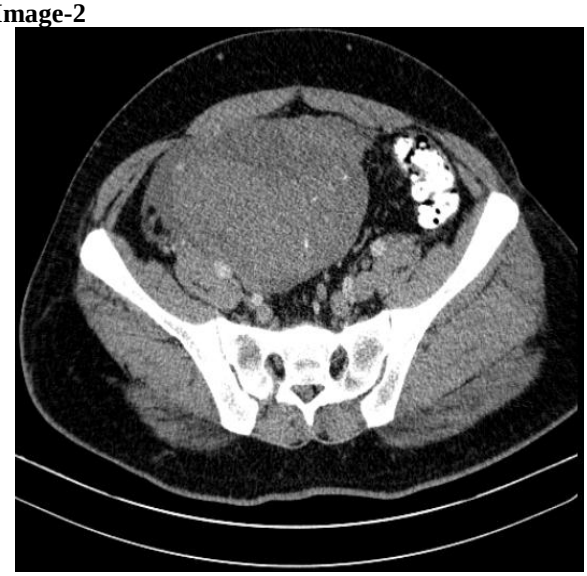
An imaging diagnosis of primary malignant neoplasm of undescended right testis infiltrating right ureter, urinary bladder and ileum with retroperitoneal lymphadenopathy was made.

Tumour markers evaluation showed elevated serum levels of b-HCG and LDH levels with normal S.AFP levels. Patient underwent incisional biopsy from the lesion and which revealed features of seminoma histopathologically.

Image-1

Description :axial plain CT section showing mixed density lesion in right iliac fossa anterior to right psoas muscle and abutting anterior abdominal wall with peripheral soft tissue density areas and central calcifications. Origin: Department of Radio diagnosis, government medical college, Kozhikode, kerala, 2021.

Image-2

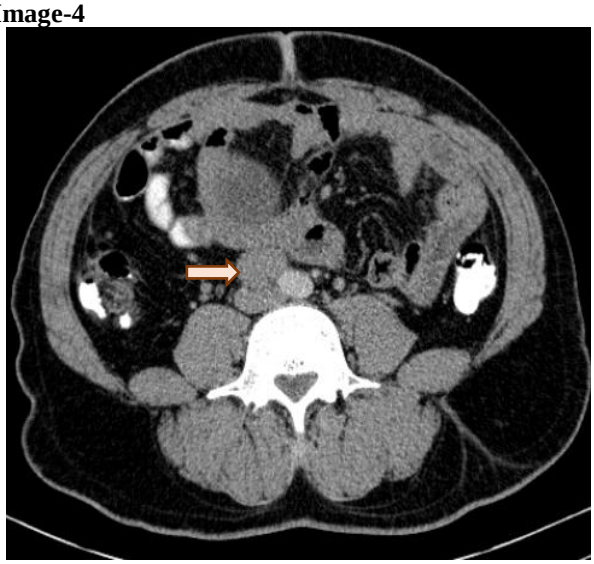


Description - Axial contrast CT sections of abdomen showing heterogeneous enhancement of the lesion. Fluid density area also seen right lateral to the lesion suggestive of ascites. Origin: Department of Radio diagnosis, government medical college, Kozhikode, kerala, 2021.

Image-3

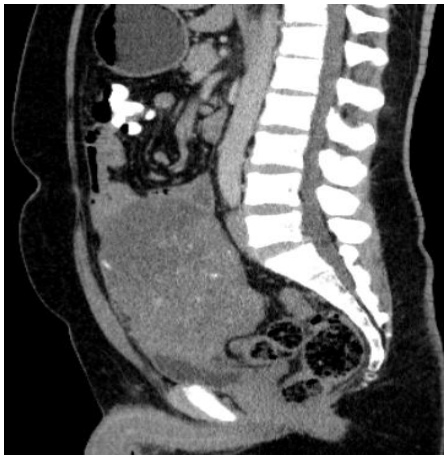
Description- Coronal contrast CT section showing extension of the lesion into right hemi scrotum through right inguinal canal as a blind ending lesion. Origin: Department of Radio diagnosis, government medical college, Kozhikode, kerala, 2021.

Image-4



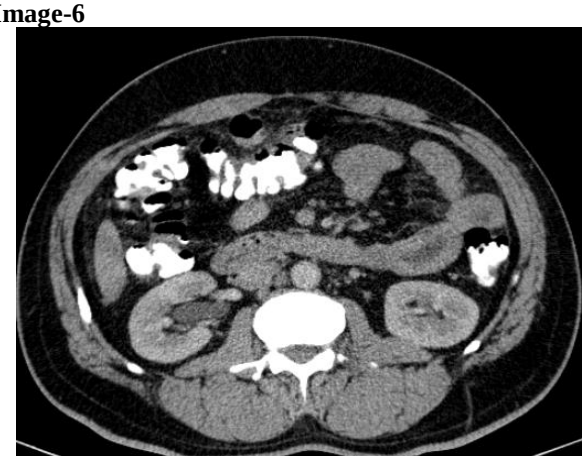
Description- Axial contrast CT sections of abdomen showing enlarged homogenous right para aortic lymph node. Origin: Department of Radio diagnosis, government medical college, Kozhikode, kerala, 2021.

Image-5



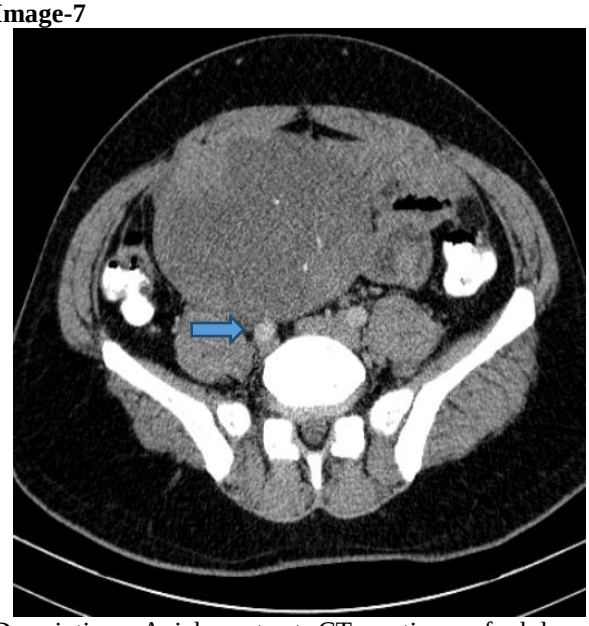
Description- Sagittal contrast CT section- lesion infiltrating dome of urinary bladder, displacing and infiltrating ileal loops superiorly. Origin: Department of Radio diagnosis, government medical college, Kozhikode, kerala, 2021.

Image-6



Description- Axial contrast CT sections of abdomen showing right mild hydroureteronephrosis (6a, right image) Origin: Department of Radio diagnosis, government medical college, Kozhikode, kerala, 2021.

Image-7

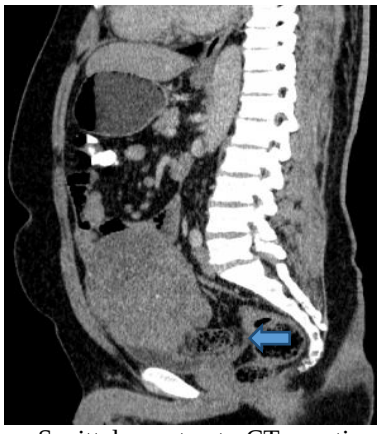


Description- Axial contrast CT sections of abdomen showing infiltration of right distal ureter by the lesion (arrow mark). Origin-Department of Radio diagnosis, government medical college, Kozhikode, kerala, 2021.

Image-8

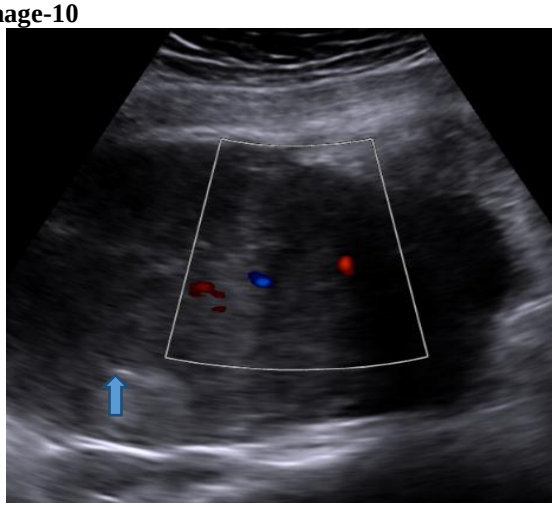
Description- Axial contrast CT sections showing empty right hemiscrotum. Left testis is imaged in left hemiscrotum. Origin: Department of Radio diagnosis, government medical college, Kozhikode, kerala, 2021.

Image-9



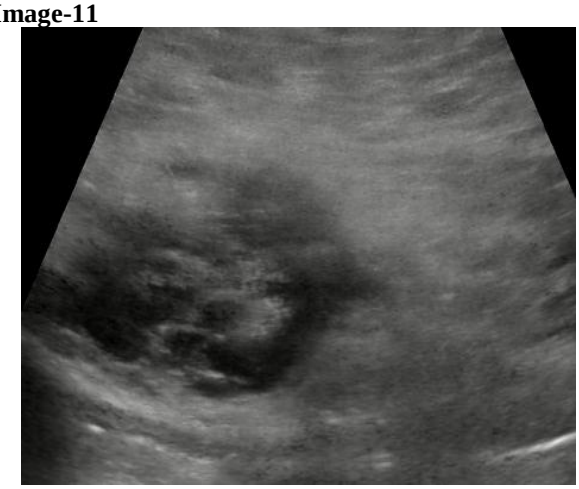
Description- Sagittal contrast CT sections showing thickened peritoneum. Origin: Department of Radio diagnosis, government medical college, Kozhikode, kerala, 2021.

Image-10



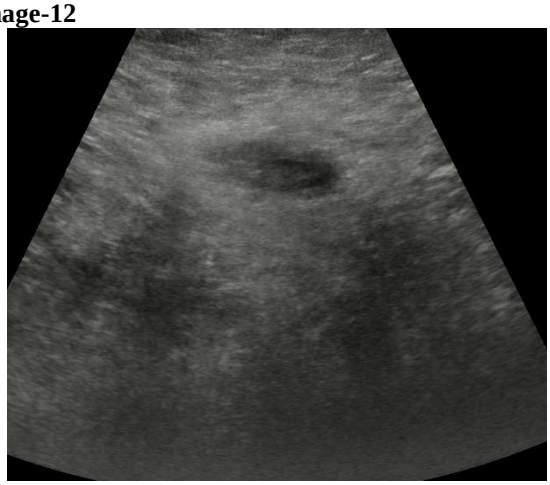
Description- Ultrasound lower abdomen (probe placed towards right) image showing heterogeneously hypoechoic lesion with areas of vascularity and calcification focus (arrow mark). Origin: Department of Radio diagnosis, government medical college, Kozhikode, kerala, 2021.

Image-11



Description- Ultrasound image showing heteroechoic lesion which is inseparable from right spermatic cord in inguinal canal. Origin: Department of Radio diagnosis, government medical college, Kozhikode, kerala, 2021.

Image-12



Description- Ultrasound right hemi scrotum image showing blind ending lesion with empty right hemi scrotum. Origin: Department of Radio diagnosis, government medical college, Kozhikode, kerala, 2021.

DISCUSSION

Cryptorchidism or undescended testis is a most common congenital condition of the genitourinary tract in males encountered in 1% of boys and strongest risk factors for infertility, torsion, trauma and testicular cancer.[2] The testicular cancer represents 1-2% of total tumours and more frequent solid neoplasia in young men between 15-34years.[5] About 10% of all cases of testicular germ cell tumours(TGCT) occurs in men with history of cryptorchidism.[7]

Between undescended testicles, abdominal testicles present a higher rate of malignity than the one located in inguinal canal. The abdominal testicles develop cancer in 30% of cases. It is often misdiagnosed as mesenteric or retroperitoneal masses.[2] The most common type of TGCT in cryptorchidism is seminoma which is 93% in in abdominal situation, 63% if testis in inguinal and 28% in normotopic testis.[2] The other histological types are embryonal carcinoma,teratocarcinoma and choriocarcinoma.

Clinically patient present with abdominal pain or symptoms related to mass effect or can be asymptomatic.[3]

Ultrasound can be useful in localizing testes that lie close to the inguinal ligament but frequently does not demonstrate the intraabdominal testis.[1] Demonstration of pampiniform plexus of veins draining testis is important in identifying and diagnosing pathologies of undescended testis.[3]

CT study especially contrast enahnced CT study plays an important role in diagnosing undescended testis pathologies and also give information about neoplastic involvement of the testis such as solid heterogenous enhancement, presence of calcification, retroperitoneal adenopathy, visceral infiltration and metastasis.[1] When male patients presenting with an abdominal mass or masses, CT should be performed through the inguinal regions and presence of bilateral spermatic cords to be determined.[6] Absent or blind ending spermatic cord in inguinal acanal or absent testis in hemiscrotum in background of intrabadominal mass one should consider the possibility of neoplasm of undescended testis in differential.[3]

Testicular tumors usually have nonhomogeneous signal in MRI that is lower, particularly on long TR/TE images, than that of the normal testis. Nonseminomatous germ cell tumors may contain areas of high signal intensity, probably representing hemorrhage.[2]

The three established tumor markers in testicular malignancy are α-fetoprotein(AFP), HCG, and lactate dehydrogenase(LDH). AFP is elevated in testicular malignancies but never present in pure seminoma or pure choriocarcinoma. HCG always elevated in the presence of choriocarcinoma in patients of testicular cancer. It can also be elevated in the presence of embryonal carcinoma, teratoma, and up to 10% of pure seminoma. LDH can be elevated in both seminoma and NSGCT. Elevation is typically an indication of bulky or extensive disease.[4]

CONCLUSION

Cryptorchidism is an established risk factor for testicular malignancy with intra abdominal location carrying highest risk. Male patients presenting with an abdominal mass or masses, CT/MR should be performed through the inguinal regions to demonstrate presence of bilateral spermatic cords and testis. Neoplasm of undescended testis is to be considered in differential diagnosis in a male patient presenting with intra abdominal mass of uncertain abdominal organ origin with blind ending spermatic cord or empty hemiscrotum.

REFERENCES

1. Lorigan JG, Shirkhoda A, Dexeus FH. CT and MR imaging of malignant germ cell tumor of the undescended testis. Urol Radiol, 1989; 11(2): 113-7. doi: 10.1007/BF02926490. PMID: 2569246.
2. Tazi MF, Riyach O, Ahsaini M, Ahallal Y, Khallouk A, El Fassi MJ, Farih MH. Tumor in undescended intrapelvic testis revealed by supraclavicular lymphadenopathy: a case report and literature review. BMC Res Notes, 2013 Apr 26; 6: 166. doi: 10.1186/1756-0500-6-166. PMID: 23622500; PMCID: PMC3645951.
3. Lim YJ, Jeong MJ, Bae BN, Kim SH, Kim JY. Seminoma in undescended testis. Abdom Imaging, 2008 Mar-Apr; 33(2): 241-3. doi: 10.1007/s00261-007-9219-z. PMID: 17401599.

4. Kreydin EI, Barrisford GW, Feldman AS, Preston MA. Testicular cancer: what the radiologist needs to know. AJR Am J Roentgenol, 2013 Jun; 200(6): 1215-25. doi: 10.2214/AJR.12.10319. PMID: 23701056.
5. Bhosale PR, Patnana M, Viswanathan C, Szklaruk J. The inguinal canal: anatomy and imaging features of common and uncommon masses. Radiographics, 2008 May-Jun; 28(3): 819-35; quiz 913. doi: 10.1148/rg.283075110. PMID: 18480486.
6. Muttarak M, Peh WC, Chaiwun B. Malignant germ cell tumours of undescended testes: imaging features with pathological correlation. Clin Radiol, 2004 Feb; 59(2): 198-204. doi: 10.1016/j.crad.2003.07.008. PMID: 14746792.
7. Ferguson L, Agoulnik AI. Testicular cancer and cryptorchidism. Front Endocrinol (Lausanne), 2013 Mar 20; 4: 32. doi: 10.3389/fendo.2013.00032. PMID: 23519268; PMCID: PMC3602796.