



ASYMPTOMATIC TESTICULAR MALIGNANCY IN INTRA-ABDOMINAL TESTIS

Surgery

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ABSTRACT

Background: Testicular malignancy is rare in young adults and incidence increases with age. Individuals with cryptorchidism or undescended testis have a high potential of turning into malignant tumors.

Case Presentation: A 30 years asymptomatic male presented to surgery OPD for absence of both testis in scrotum. Investigations confirmed that both testis were intra-abdominal with right being atrophic and left enlarged. Biochemical laboratory investigations along with tumor markers- AFP, β -Hcg and LDH were within normal range. Laparoscopic bilateral orchidectomy was performed and on histopathological examination seminoma was reported in left testis which was contained in the capsule.

Conclusions: Young adult patients with undescended testis, even if asymptomatic should be advised orchidectomy as chances of malignant transformation are high. For non metastatic tumor regular follow up and monitoring of tumor markers is advised.

KEYWORDS

Intra-abdominal Testis, Seminoma, Orchidectomy

BACKGROUND

Testicular tumours are relatively rare and account for only 1-2% of all tumours in men.[1,2] Patients with intra-abdominal testicle are more prone to develop complications like cancer, ischemic injury and infertility.[3,4] Most common congenital abnormality of genitourinary tract in males is cryptorchidism.[1] Seminoma is the most common malignant transformation of an undescended testis.[5] Here we present a case of asymptomatic intra-abdominal testis with tumour markers within normal reference range and no radiological signs, which turned out to be a case of seminoma on histopathological examination.

CASE PRESENTATION

A 30 years old male presented to surgery OPD with complaint of absence of testis bilaterally since birth. There was no associated complaint. On examination bilateral inguinal region showed no evidence of swelling and no impulse on coughing. Scrotal examination revealed absence of both testes in scrotal sacs with absence of scrotal rugosities. Palpation of abdomen did not reveal any intra-abdominal mass. Ultrasound of scrotum revealed bilateral empty scrotal sacs. MRI PELVIS revealed a well-defined oval shaped heterogeneous mass lesion (enhancing on T2 weighted image) in left half of the pelvis adjacent to the left external iliac vessels- likely undescended left testis. Similarly an oval shaped lesion of smaller size in right iliac fossa region- likely undescended right atrophic testis. On the basis of MRI findings, left testicular tumor was suspected. Tumor markers AFP, beta-hcg and LDH were within normal limits. Patient underwent bilateral laparoscopic orchidectomy after obtaining informed consent.[Figure 1 and 2] Gross examination of specimen revealed left testis of size 6x 4 x 2.5 cm and weight of 105 gm. On cut section a well circumscribed nodule, measuring 1 cm in diameter, dark in colour, seen without any area of calcification or haemorrhage.[Figure 3] Necrotic fluid came out on cut section likely tumour necrosis. Right testis was atrophic 2 x 2 x 1cm and unremarkable. Microscopic examination of the tissue section showed large atypical cells with high nucleus to cytoplasmic ratio [Figure 4] and hyperchromatic nuclei with clear cytoplasm, separated by fibro-vascular core infiltrated by lymphocytes.[Figure 5] Focal areas of necrosis and breakdown were identified. No evidence of lymphovascular invasion was noted. The tumour was almost reaching up to the capsule, however not breaching it. On immunohistochemistry, these cells exhibited positivity for OCT3/OCT 4 [Figure 6] and PLAP. [Figure 7]

Postoperative period was uneventful. Patient was discharged on third postoperative day following an uneventful postoperative period. CECT abdomen after bilateral orchidectomy did not reveal any evidence of retroperitoneal lymph node enlargement. Patient was followed at 3 month intervals with chest x-ray and tumor markers for first year, thereafter will be followed every 6 months.

DISCUSSION

Undescended testis, or cryptorchidism, which occurs in 2 to 5% of boys born at term, is one of the most common congenital abnormalities.[6] Approximately 10% of testicular cancers are associated with an undescended testis, and the incidence of malignant degeneration in an undescended testis has been reported to be 48 times greater than in the normal testis [7, 8]. Malignant degeneration usually occurs after puberty, even after conservative or surgical correction of the malposition [9,10]. Moreover, cancer occurs more frequently in abdominal testes, where it is four times as common as in canalicular undescended testes.[11] Seminoma is the most common cell type in undescended testicular tumour. Orchiopexy does not change the risk of malignant transformation in the cryptorchid testis but does allow for easier surveillance and detection of testicular cancer. Tumor type and anatomic stage are reliable prognostic indices whether the tumorous testes is in the abdomen, groin, or scrotum.[12]

The frequency of seminoma decreases with descent of the testis from the abdomen into the scrotum. Seminoma was present in 92% of patients with abdominal or inguinal tumours and in 50% of those with scrotal tumours.[13] The patient seen after puberty with an intra-abdominal, unilateral, undescended testis should have orchidectomy. The patient seen after puberty and before age 50 with a unilateral undescended testis in the inguinal region should have orchidectomy because the risk of death from malignancy exceeds the risk of anesthesia and orchidectomy.[14]

CONCLUSION

As undescended and intra-abdominal testis have high potential of malignant transformation, so patients even without any symptoms with intra-abdominal testis may have concealed malignancy and it should always be kept in mind while planning management. Orchidectomy should be offered to all patients presenting with cryptorchidism after puberty. Tumor markers are an important guide for both diagnosis and follow up.

LEGENDS

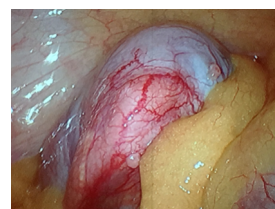


Figure 1: Laparoscopic intraoperative image showing normal looking testis

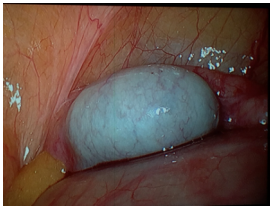


Figure 2: Laparoscopic intraoperative image showing normal looking testis

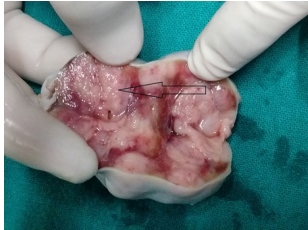


Figure 3: Specimen of left testis showing nodular growth with no areas of necrosis or hemorrhage.

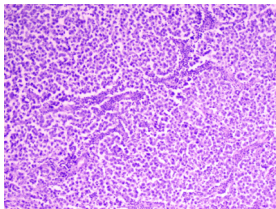


Figure 4: Photomicrograph depicting histopathology of left testicular growth – cells with high nucleo-cytoplasmic ratio.

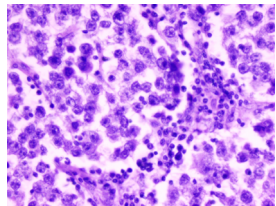


Figure 5: Photomicrograph showing tumor cells separated by fibrovascular stroma with lymphocytic infiltration.

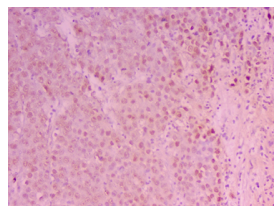


Figure 6: Immunohistochemistry slide showing cells positive for Oct3/4.

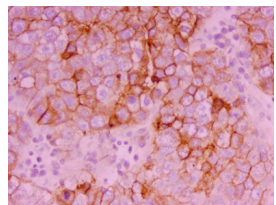


Figure 7: Immunohistochemistry slide showing cells positive for PLAP.

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