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A CASE OF TESTICULAR MIXED GERM CELL TUMOR IN A PERIPHERAL GOVERNMENT HOSPITAL

Oncology

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ABSTRACT

Mixed germ cell tumors of the testis are cancers typically found in males of reproductive age. Germ cell tumors can be effectively treated when diagnosed in the early stage. We present the case of a 36-year-old male who presented with pain in the abdomen and swelling on the left side of the scrotum. Scrotal ultrasound revealed an enlarged left testicle with mixed echogenic lesions suggesting malignancy. Tumor markers are also increased. High inguinal orchidectomy was performed. Pathology confirmed a diagnosis of testicular mixed germ cell tumor composed of yolk sac and embryonal cell carcinoma.

KEYWORDS

Testicular mixed germ cell tumor, Cisplatin-based chemotherapy, Yolk sac tumor, Embryonal cell carcinoma.

INTRODUCTION :

Testicular cancers are the most common malignancy in men aged between 15 and 45 years [1]. Testicular cancers form 1% of all malignancies in men in India [2]. Testicular tumors are of three major types: Germ cell tumors, sex-cord stromal tumors, and extragonadal tumors [3]. The Germ cell tumors are of two kinds: seminomatous and non-seminomatous. Non-seminomatous germ cell tumors comprise nearly 50% of all testicular germ cell tumors [4]. Non-seminomatous testicular tumors consist of embryonal carcinoma, yolk sac tumor, teratoma, and choriocarcinoma [5]. The Risk factors include cryptorchidism, family history of testicular cancer, gonadal dysgenesis, infertility, cannabis use, and genetic conditions such as Klinefelter syndrome [6]. Patients presenting with a painless testicular mass, scrotal heaviness, a dull ache, or acute pain should undergo a thorough examination [7].

Case Presentation:

A 36-year-old male patient came with a complaint of pain in the abdomen for 1 week and swelling in the left side of the scrotum for 6 months. The swelling gradually increased in size and is associated with heaviness in the scrotum. On examination, the left testis is enlarged, measuring 7×6cm, hard in consistency, non-tender, and with a nodular surface. The right testis is normal.

On examining the abdomen, an 8×8cm firm to hard, non-tender lump is noticed with a nodular surface occupying the left of the umbilicus.

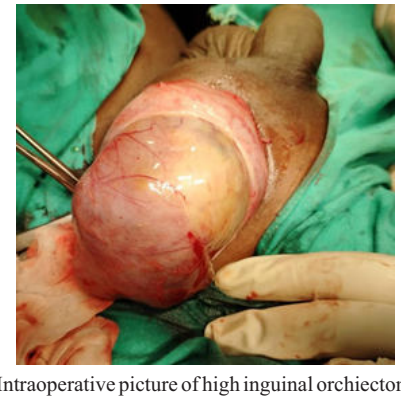

Figure 1: Intraoperative picture of high inguinal orchiectomy.

CT scan of the abdomen showed a heterogeneously enhancing soft tissue density lesion of size 10.9×8.3×10cm noted in the mesentery of the left inframesocolic compartment extending superiorly up to the left perirenal space, inferiorly up to the L4 vertebra level, medially encasing the aorta. Left mild hydrocele is noted along with left mild hydronephrosis.

CT of the chest is normal without any metastasis.

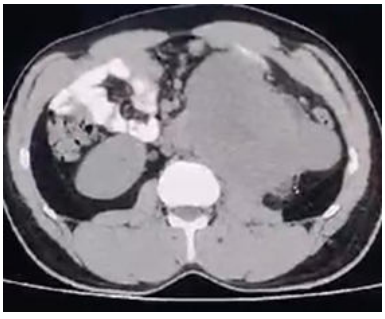

Figure:2- CT finding showing retroperitoneal lymphadenopathy

The patient was posted for surgery, and a left high inguinal orchidectomy was performed. The postoperative period was uneventful-gross specimen measuring 13×6.5×6cm. The Cut section is a greyish white to Gray-brown tumor, soft to firm in consistency, having solid to cystic with hemorrhagic areas seen involving the entire testis.

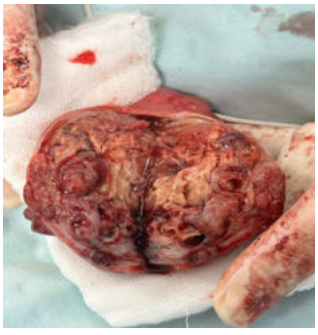

Figure-3: The picture shows the cut section of the resected testicular mass.

Histopathological examination shows cells arranged in microcystic and macrocystic patterns. Focal areas show cells in tubular, papillary with Schiller Duval bodies. Individual cells are highly pleomorphic

with vesicular nuclei and prominent nucleoli. There are wide areas of necrosis with hemorrhage.

Histological features are consistent with mixed germ cell tumors with predominant yolk sac tumors with embryonic carcinoma.

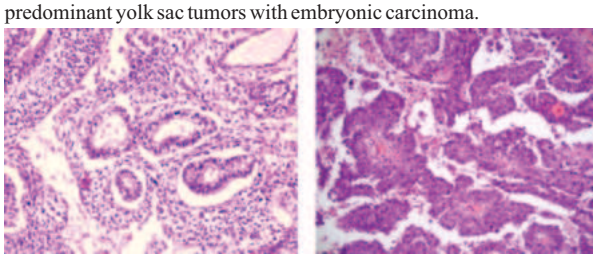

Figure 4- A) The picture shows Schiller-dual representing Yolk sac tumor.
B) The picture shows embryonal Bodies showing nuclear aplasia

He patient was advised to undergo chemotherapy with Bleomycin, Etoposide, and Cisplatin for 4 cycles. The 2nd cycle of chemotherapy was delayed due to personal reasons. CT findings showed an increase in the size of the lesion, that is 18.6×23.3×27cm,extending superiorly up to the lesser sac abutting the greater curvature of the stomach, and anteriorly up to the abdominal wall, inferiorly to the bladder with bilateral hydronephrosis. The surgery was performed to remove the mass .

Table 1: The Table Depicts Reference Values And Levels Of Biochemical Markers In The Patient Before Surgery.

Biochemical Markers	Levels	Reference values
Serum human chorionic gonadotropin (HCG)	1849mlU/ml	Less than 2mlU/ml[8]
Lactate dehydrogenase (LDH)	567U/lit	135-225U/lit[9]
Alpha-fetoprotein (AFP)	656.7U/ml	0-10U/ml[10]

DISCUSSION:

Testicular tumors are classified broadly into seminomatous and non-seminomatous. Germ cell tumors of the testis are the most common solid tumor in men between 15 and 35 years of age. Testicular cancer generally presents as a painless testicular mass without transillumination[11]. According to Santosh et al [12], some may present with painless scrotal swelling, which may be cystic and transilluminating, that mimics a hydrocele. Some cases of testicular mixed germ cell tumors may present with rare complaints such as heaviness or dull ache of the scrotum or lower abdomen[13].

Timely identification and treatment of the tumor are important for the outcome of the disease. Diagnosis typically involves imaging, biopsy, and tumor marker assessment. The primary treatment for testicular germ cell tumor is high radical orchidectomy, which involves the resection of one or both testicles with the cord as well as the internal inguinal ring[14]. The treatment strategies depend on tumor histology, stage, and risk factors and may include surveillance for low-risk tumors and adjuvant therapies such as cisplatin-based chemotherapy, Radiation therapy, or retroperitoneal lymph node dissection. The most common chemotherapy regimen used is the bleomycin, cisplatin, and etoposide regimen[15]. Some may develop resistance to cisplatin-based chemotherapy, which contributes to the failure of the treatment [16]. Testicular carcinoma can be aggressive, and patients may present with hemoptysis and dyspnea, indicating metastasis to the lungs, and may show a cannonball appearance, indicating metastasis[17].In a similar case report, the patient stopped chemotherapy. The CT revealed numerous lung metastases. Following an evaluation by oncology, the patient was unfit for any further chemotherapy[18].

CONCLUSIONS:

When a male patient presents with pain in the abdomen or swelling in the scrotum, it is important to consider a testicular tumor as one of the differential diagnosis. Further biochemical markers like alpha fetoprotein, lactate dehydrogenase, Human Chorionic Gonadotropin, and histology picture help us arrive at the testicular tumor's subtype. It is important to know the subtype of the testicular tumor to begin treatment for maximum survival. If the person is suggested to begin chemotherapy, it is important to complete all the cycles to prevent its relapse. The patient is informed about the impact of the treatment on his fertility.

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