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Seminoma with Raised Level of AFP: A Case Report

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ABSTRACT

We present a case of a 24 year male with a diagnosis of left testicular tumor on magnetic resonance imaging. He received high inguinal orchiectomy, and the pathological report showed seminoma. A painless mass or prominent testis enlargement is the most distinctive presentation. High inguinal radical orchiectomy is the treatment of choice, and the prognosis is good for localized tumors after resection. Adjuvant chemotherapy or radiotherapy for advanced disease shows only minimal benefits.

Keywords: Testicular Tumor, High Inguinal Orchidectomy, Yolk Sac Component

INTRODUCTION

Testicular cancer accounts for approximately 1% of all tumors in male. It is the most common solid malignancy in men age 15 to 35 years (1-4). Most men are diagnosed with an asymptomatic enlarging mass (5). Most neoplasms arise from the germ cells, although non–germ cell tumors arise from Leydig's or Sertoli's cells. The non–germ cell tumors are rare and generally follow a more benign course. Germ cell cancers are categorically divided into seminomatous and nonseminomatous forms that follow different treatment algorithms. Since the vast majority of solid testicular masses are cancerous, any observed mass on physical examination and /or documented on ultrasound is malignant until proven otherwise. Initial studies must include tumor markers, including α-fetoprotein, β-human chorionic gonadotropin, and lactate dehydrogenase. Elevated tumor markers are found almost exclusively in nonseminomatous germ cell tumors, although up to 10% of patients with localized seminomas and 25% with metastatic seminomas will have a modest rise in β-human chorionic gonadotropin. Chest and abdominal imaging must be performed to evaluate for evidence of metastasis. The most common site of spread is the retroperitoneal lymph nodes extending from the common iliac vessels to the renal vessels, and abdominal imaging should be performed in all patients. Herein, we present a case of a seminoma testes with raised AFP level that was managed as non seminomatous tumor.

CASE REPORT

A 24 year-old male presented with 4 x 6 x 6 cm left testicular mass which was nontender, ill defined, and hard in consistency on palpation; however, the size of his right testis was normal. No inguinal lymphadenopathy was observed. His hemogram and biochemistry tests were all normal. Tumor marker tests showed the following: alpha-fetoprotein: 4261 ng/mL (normal <8.5 ng/mL); beta-human chorionic gonadotropin: 0.6 mIU/mL (normal <5 mIU/mL); and lactate dehydrogenase:

102 U/L (normal 100 -190 U/L). Scrotal sonography revealed a large heterogeneous echoic nodule 8.3x4.8 cm in size in the left testis with increased vascularity. MRI of external genitalia shows a large well defined heterogenous mass in left scrotal sac of approx. size 56.9mm (AP) x 62.1mm (transverse) x 77.5mm (CC). mass appears iso to hypointense on T1w & predominantly hyperintense on t2w & WFS T2w images. Few tiny cystic areas also noted in the mass. No infiltration of scrotal wall noted. Left epididymis is not separately outlined. Both chest X-ray and CT scan of chest showed no lymphadenopathy. Left radical orchiectomy was performed.

Grossly, the tumor was yellowish white, firm. It was confined to the testis, and the tunica albuginea and epididymis were free of the tumor. Cut surface is smooth, homogenous. Histopathological features compatible with seminoma. Proximal

resection margin is free from tumor infiltration. On IHC tumor cells are AFB +ve, CD30 +ve and PLAP –ve. The patient was given cisplatin based chemotherapy of BEP regimen, i.e. Bleomycin, Etoposide, and Cisplatin. He showed good response after the 1st cycle. At the time of starting the second cycle, AFP had decreased to 196 IU/ml. patient was advised for regular follow up at 2 month interval for first year, 3 month interval for the 2nd year, and 6 month interval for 3rd to 5th year. At every follow up tumor marker and at 6 month interval CT thorax and abdomen was advised. He had complete response upto 36 month of follow up.

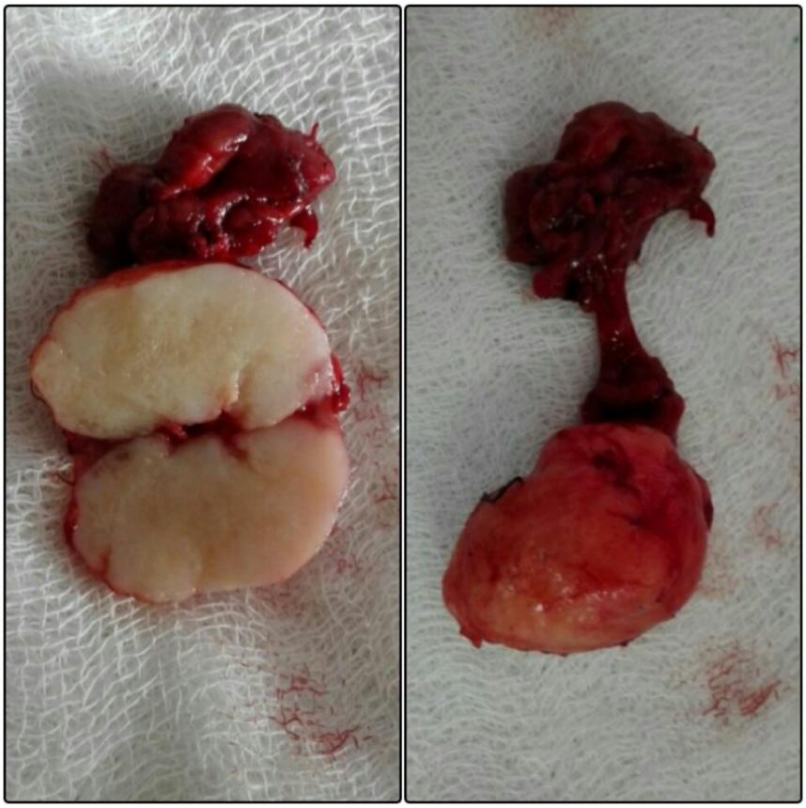

Fig 1: Showing high inuinal orchidectomy speimen

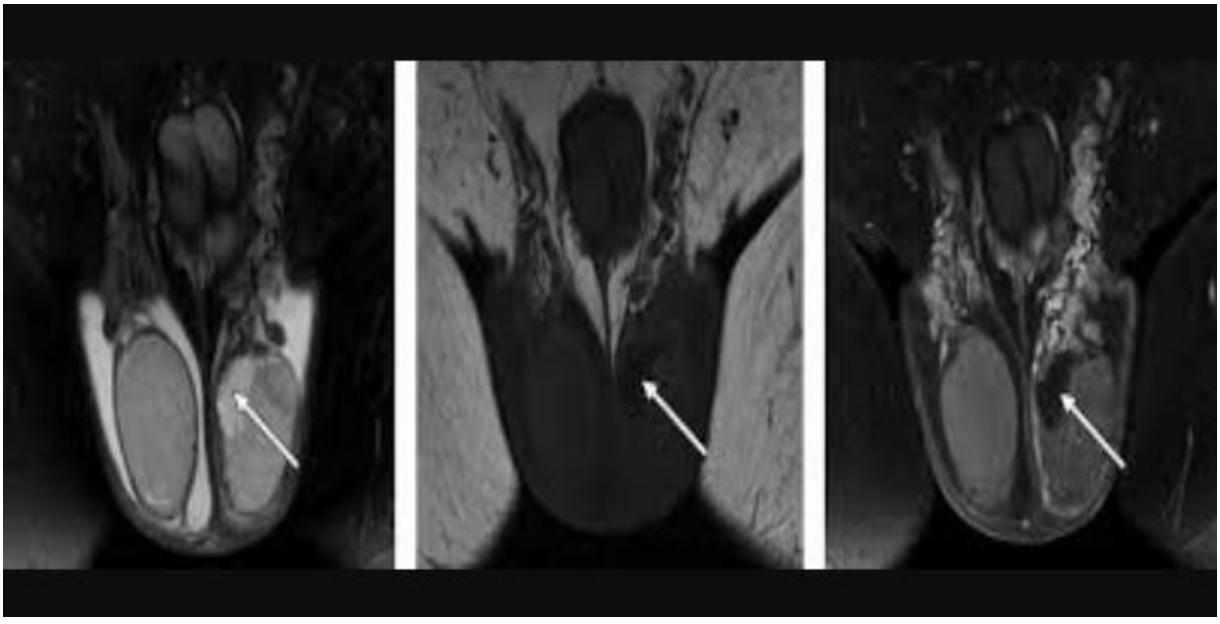

Fig 2: MRI of the external genitalia showing left testicular mass

3. DISCUSSION

Primary testicular tumor may originate from germ cells, sex cord cells, or less commonly peritubular stromal and hematopoietic migratory cells [6]. Testicular germ cell tumors may contain multiple components with variable growth and metastatic patterns making an accurate diagnosis difficult. The determination of level of tumor markers have improved the diagnosis. Pure seminomatous tumors do not produce AFP, therefore the presence of an elevated level of AFP indicates that an undetected focus of yolk sac tumor is present (7). In adults, pure yolk sac tumors are rare(8), but yolk sac elements are found in approximately 40% of mixed germ cell tumors. Yolk sac tumors are associated with elevated AFP levels but they don't produce beta- hCG. Seminoma with raised AFP level raise the suspicious of non seminomatous component and is treated as non seminomatous tumor. Although many studies have examined different chemotherapy regimens including high dose chemotherapy, the standard first line therapy remains four cycles of bleomycin, etoposide, and cisplatinum (BEP) [9,10]

CONCLUSION

More than 50% of germ – cell tumors include more than 2 basic germ cell tumor types, with the exception of spermatocytic seminoma. About 90% of the patients with non seminomatous tumors can achieve complete cure with aggressive chemotherapy and most of them can be cured. Although prognosis depends largely on clinical stage, histological type and adhesions to the treatment influence the treatment as well. Patient with seminomatous tumor may have raised level of AFP and is best managed with treatment regimen for non seminomatous tumor.

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