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Liposarcoma of Spermatic Cord – A Case Report and Literature Review.

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ABSTRACT

Liposarcoma of spermatic cord is rare. As for every rare case preoperative diagnosis of liposarcoma of the spermatic cord is rarely possible for which high index of suspicion is needed. Usually one among the more common inguino-scrotal swellings like hernia, hydrocele, lipoma etc. will be the initial diagnosis and a definitive diagnosis will be made by histopathologist. As some of the histological varieties are relatively more aggressive an accurate histological sub typing of this malignancy carries importance and they must be treated with post-operative radiotherapy and adequate follow up. Here we present a case report of liposarcoma of spermatic cord followed by a discussion with literature review on management of the same.

Keywords: Groin mass, Inguinal hernia, Soft tissue sarcoma.

INTRODUCTION

Liposarcoma of spermatic cord is rare. As for every rare case preoperative diagnosis of liposarcoma of the spermatic cord is rarely possible for which high index of suspicion is needed. Usually one among the more common inguino-scrotal swellings like hernia, hydrocele, lipoma etc. will be the initial diagnosis and a definitive diagnosis will be made by histopathologist. As some of the histological varieties are relatively more aggressive an accurate histological sub typing of this malignancy carries importance and they must be treated with post-operative radiotherapy and adequate follow up.

CASE REPORT

A 55 year old male presented to our hospital with complaints of a swelling on his left inguino-scrotal region which was present since last 1 year and history of sudden increase in size after a minor trauma to the swelling 5 months back. There were no history of fever or pain. On examination there was a firm, oval, mobile, non-tender, smooth surfaced swelling of size 4x4 cm in the left spermatic cord, in the region of the root of the scrotum with no impulse on coughing. It was non-reducible and getting above it was possible. Testis on left side was normal in size and was felt separately from the swelling.

Routine heamogram and chest X-ray were normal. Ultrasonography of the left inguino-scrotal region showed a solid hyper echoic heterogeneous mass on left spermatic cord separate from testis suggestive of lipoma. Written and informed consent including that for orchiectomy was taken and patient was posted for surgery with a provisional diagnosis of lipoma of spermatic cord with traumatic fat necrosis.

Inguinoscrotal region was explored by an inguinoscrotal incision. A 4x4 cm sized solid mass was present over the spermatic cord in the root of scrotum above the testis. Testis was delivered into the wound and was found normal. Rest of the spermatic cord was also normal. The mass was cut open to see the nature which showed solid inhomogeneous cut surface with hard central part, which raised a suspicion of malignancy. Hence Spermatic cord was clamped close to the deep inguinal ring and a high inguinal orchiectomy along with the mass was performed [Figure 1]. There were no areas of haemorrhage or necrosis inside the mass [Figure 2]. Wound was drained and closed as usual. Specimen was sent for histopathological examination.

Detailed histopathological showed features of both well differentiated and dedifferentiated liposarcoma. Well differentiated component was formed by adipocytic (lipoma like liposarcoma) while dedifferentiated component was formed by high grade spindle cell sarcoma showing marked nuclear atypia and mitotic activity. It was composed of round cells with abundant pale and vacuolated

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cytoplasm, lipoblasts and spindle cells with hyperchromatic nucleus in between [Figure 3]. Areas of necrosis were absent. On immunohistochemistry S100p was diffusely positive [Figure 4] and SMA (smooth muscle actin) and desmin were negative. Final diagnosis of dedifferentiated liposarcoma of the left spermatic cord was made.

Subsequently patient was subjected to whole body PET scan to evaluate for local and distant metastasis, which showed no areas of metastasis [Figure 5].

Figure 1: High inguinal orchiedctomy specimen.

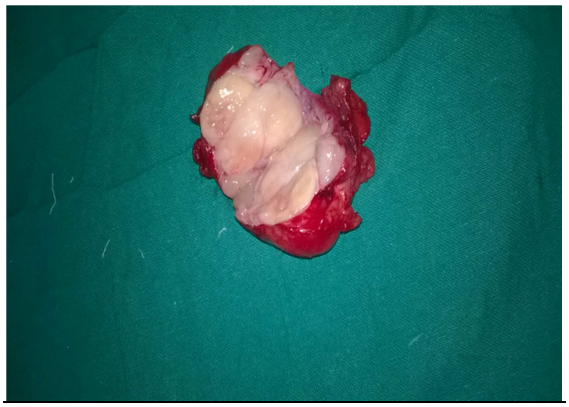

Figure 2: Cut section of the lesion.

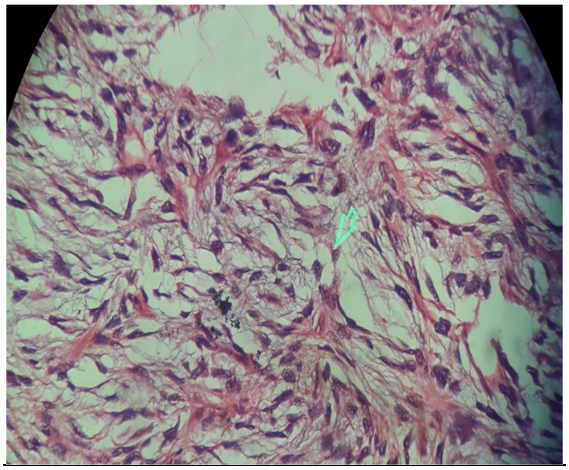

Figure 3: Microphotograph showing lipoblasts and spindle cells with hyperchromatic nuclei.

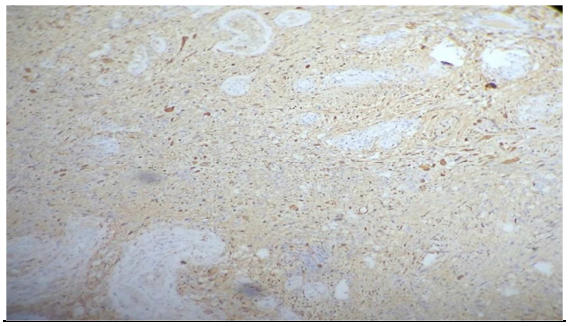

Figure 4: IHC showing diffuse S100 positivity

Then patient was referred for adjuvant therapy to the nearby cancer hospital where he was given 60Gy of radiotherapy in 30 fractions. After six months of follow-up patient is asymptomatic.

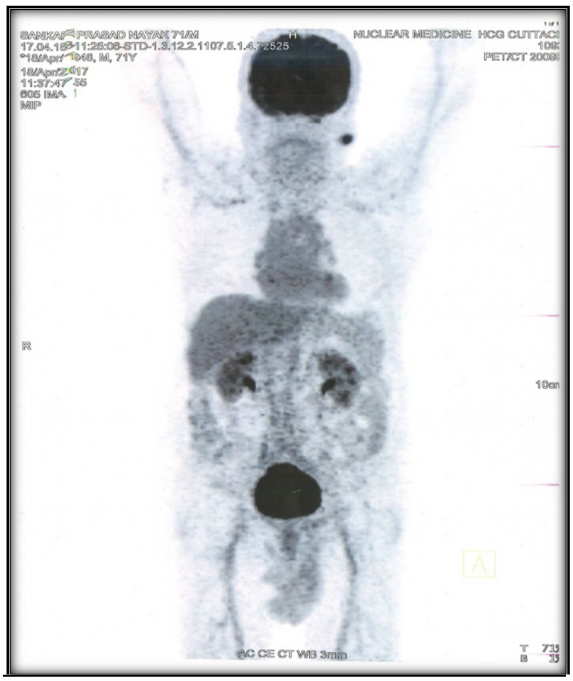

Figure 5: PET scan showing no metastatic lesions. A hot spot in left parotid gland is visible suggestive of Warthins tumour.

DISCUSSION

Malignant lesions of Para testicular tissues (spermatic cord, epididymis and tunica vaginalis) are rare and most common among them are sarcomas. 90% of all spermatic cord malignancies are sarcomas. Although liposarcoma is the most common soft tissue sarcoma (in the whole body) but its incidence in Para testicular tissues is less. Liposarcoma of spermatic cord accounts for 3-7% of all liposrcomas.[1] Almost 20% of the Para testicular sarcomas are liposarcoma (common sarcomas being rhabdomyosarcoma and leiomyosarcoma).[2]

Among inguinoscrotal masses incidence of liposarcoma is 7%-10%.[3] Most of the patients are in their 50s or 60s. It is hypothesised that they originate from mesenchymal cells rather than malignant

transformation of lipomatous cells.[4] Usually patients with liposarcoma of spermatic cord presents with a slowly growing, painless, nontender, firm inguinal or scrotal mass increasing in size during a period that ranges from months to years occasionally with a recent history of sudden increase in size. Clinical features are sometimes similar to those of an inguinal hernia loaded with faecal matter (incarcerated type).

For attempting a preoperative diagnosis imaging modalities like ultrasonography, computed tomography and MRI can be used. Ultrasound findings cannot differentiate between a benign more common lipoma and a rarer liposarcoma. On CT scan also benign and malignant lesions of spermatic cord cannot be easily differentiated although compared to benign lesions increased septum vascularity visualised in malignant ones may be helpful.[5] CT may also be useful to rule out rare existence of retroperitoneal extension.[6] Fubiao et al observed that pelvic C.T scan is necessary to rule out presence of retropritoneal lymph node metastasis.[7] Hsu et al observed that contrast enhanced C.T is the best investigation for diagnosing liposarcoma of spermatic cord.[8] M.R.I has better ability to differentiate tumour tissues from reactive tissues than C.T scan. But both of them fail to differentiate liposarcoma from irreducible hernia because of the fatty content of hernia (omentocele).[9] Gross features of liposarcoma of cord resemble that of lipoma. Histologically liposarcoma is classified into well differentiated (inflammatory, sclerosing, adipocytic subtypes), dedifferentiated, mixoid, round cell and pleomorphic. Most of them are low grade and well differentiated and have very low propensity to metastasise, but local extension may occur.[10]

Primary treatment option is surgery. Radical orchiectomy with high ligation of spermatic cord is the surgery of choice.[11] Retroperitoneal lymph node dissection is not recommended routinely and is done only if there is any evidence of metastasis. As it is difficult to achieve R0 resection in inguinal region some authors recommend post-operative radiotherapy.[12] It may be advised if margins are positive or if there is presence of metastasis and if histology is of high grade. Dedifferentiated and pleomorphic types are high grade and also are rare. Prognosis is predicted on the basis of histological type. Even though there is high chance of recurrence, prognosis is good if an adequate negative margin can be achieved. Tumour size and presence of metastasis at diagnosis are two major prognostic indicators. As these tumours are known for late recurrences long term follow up is suggested of at least 10 years.[12] Local recurrences are treated by re-excision, after which satisfactory disease free survival can be expected.

CONCLUSION

So we conclude that as liposarcoma of Para testicular region is rare, a high degree of suspicion is required for preoperative diagnosis. A C.T scan of the abdomen and pelvis is indicated if suspicion of malignancy is present. Also on suspicion of liposarcoma preoperative consent for orchiectomy must be taken. If there is doubt regarding margin status or the tumour is of high grade type then post op radiotherapy is indicated. As late recurrence is a possibility follow up must for adequate duration.

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