CASE REPORT

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Gigantic spermatocytic seminoma – A rare tumor of germ cell origin

Veliki spermatocitni seminom – redak tumor sa poreklom iz ćelija zametka

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Abstract

Introduction. Spermatocytic seminoma represents a rare hystologic type of malignant testicular germ cell tumor with slow course and low malignant potential. **Case report.** We presented a 69-year-old patient with atypical clinical presentation of spermatocytic seminoma initially diagnosed as gigantic hydrocoellae which compromised walking. After long term evolution clincal picture presented with signs and symptoms of acute scrotum. Preoperative echosonography was performed and the diagnosis of testicular infiltrative tumor was established. After that left scrotal orchiectomy was performed. Patohistological examination revealed spermatocytic seminoma. **Conclusion.** Inspite good prognosis there is a low probability of development of high grade malignancy sinchronous sarcoma within the testis with a high potential for lymphogenic and hematogenic dissemination. Individual approach is necessary in accordance with the pathohistological diagnosis.

Key words:
seminoma; diagnosis; diagnosis, differential; urogenital surgical procedures; treatment outcome.

Apstrakt

Uvod. Spermatocitni seminom predstavlja retku varijantu malignog tumora testisa benevolentnog kliničkog toka i povoljne prognoze. **Prikaz bolesnika.** U radu je prikazan bolesnik, starosti 69 godina, sa atipičnom prezentacijom spermatocitnog seminoma koji je incijalno dijagnostikovan kao gigantska bilateralna hidrocela koja je kompromitovala hodanje. Nakon dugogodišnje evolucije bolest se ispoljila sa simptomima i znacima akutnog skrotuma. Preoperatvnom ehosonografijom postavljena je dijagnoza infiltrativnog tumora levog testisa, a potom je učinjena leva skrotalna orhiektomija. Patohistološkim pregledom preparata postavljena je dijagnoza spermatocitnog seminoma testisa. **Zaključak.** Uprkos povoljnoj prognozi za ovaj histološki tip, postoji potencijalna evolucija u pravcu razvoja sarkomske komponenete u tumoru sa visokim malignim potencijalom i mogućnošću nastanka sistemskih visceralnih i limfonodalnih metastaza. Potreban je individualni pristup svakom bolesniku u skladu sa definitivnom patohistološkom dijagnozom.

Ključne reči:
seminom; dijagnoza; dijagnoza, diferencijalna; hirurgija, urogenitalna, procedure; lečenje, ishod.

Introduction

Testicular malignant tumors represent about 1% of all malignant tumors with peak incidence in population of younger men, age interval 15–34 years. Also they are dominant cause of death caused by malignant tumors in this population. More than 90% of these tumors arise from germ cells and they are classified into two subgruops: seminomatous and non-seminomatous tumors (yolk sac carcinoma, embrional carcinoma, choriocarcinoma and teratoma). Less than 6% arises from testicular stromal cells (Sertoli and Leydig cells). The smallest group of testicular tumors have mesenchymal origin (primary sarcoma and lymphoma of the testis) [1–3]. In the era before chemotherapy, which is recognized nowdays as powerfull adjuvant treatment option testicular cancer was highly incurable neoplasm with a 5-year survival lower than 5%. With introduction of platinum based chemoregimens 5-year survival increased up to 99% for the first stage (tumor confined on the testis), 96% for the stage two (locoregional spread to retroperitoneal lymph nodes), and 73% for metastatic disease (visceral metastasis in liver, lung and brain) [4, 5].

Precancerous lesion present in the testis which preceds the devolpment of cancer is called intratubular germ cell neoplasia, and the most common types of germ cell cancer which arises from it are seminoma and embrional carcinoma. Also, it is very common that testicular cancer has two or mo-

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re various histologic types which is important for the choice of adjuvant treatment option.

Unilateral, fast, painless testicular enlargement is highly suspicious for the presence of testicular tumor and is followed with elevation of blood serum tumor markers: lactat-dehidrogenase, beta chorionic gonadotropine and alfa fetoproteine.

Spermatocytic seminoma is a rare histologic type of testicular cancer which arises from mature spermatogonia in the absence of intratubular germ cell neoplasia. Peak incidence is in the population of elfarly men, age 50–60 years, and rarely is present in men aged below 30 years. It is a low-grade malignancy which tends to grow slowly and has a low potential for systemic spread. Macroscopically, it is a nodular tumor with fields of necrosis and haemorrhage. Microscopically, three populations of cells are present with the absence of fibrous septa and lymphocytic infiltration which is common in the classical seminoma. The overall prognosis is excellent [1].

Case report

We presented a 69-year-old patient with gigantic spermatocytic seminoma manifested with signs and symptoms of acute scrotoma. Many years before the diagnosis of bilateral hydrocoelae was made. Before admittance to the hospital the only present symptom was the difficulty to walk due to the scrotal enlargement. Due to the presence of the symptoms consistent with acute scrotume (testicular swelling conjoined with severe pain followed with vegetative sypmtoms), the patient was admitted and the preoperative diagnostic was made. Laboratory analysis was within the referent range except lactate dehydrogenase level and erythrocyte sedimentation rate. Chest x-ray did not reveal any abnormalities and testicular echosonography reveled nodular mass in the left testicle. Free fluid between testicular sheats was absent (Figure 1). The patient undergone urgent left scrotal orchiectomy.

Pathohystological examination of the specimen was performed with standard hematoxylin eosin (HE) staining which revealed spermatocytic seminoma with the presence of lymphovascular invasion in stage T2N0M0. Adjuvant chemotherapy was not necessary in this case (Figures 2 and 3).

After one year of follow-up the patient was alive and well. There was no elevation of tumor markers, chest x ray and computed tomography (CT) scan of abdomen and pelvis did not reveal any signs of tumor locoregional and systemic spread.

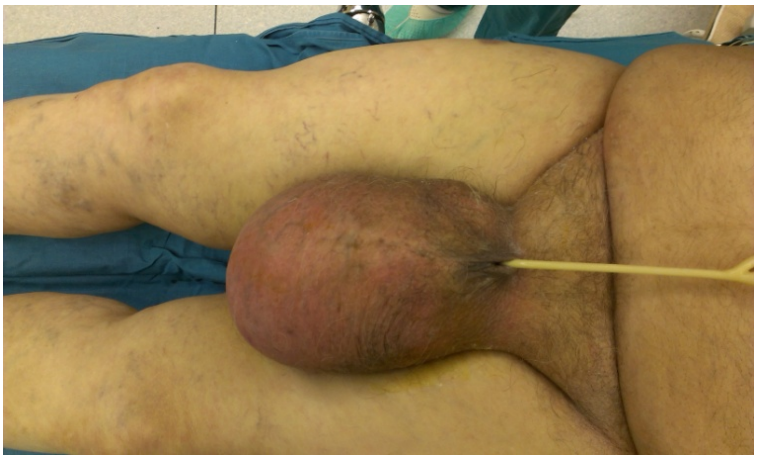

Fig. 1 – Preoperative finding.

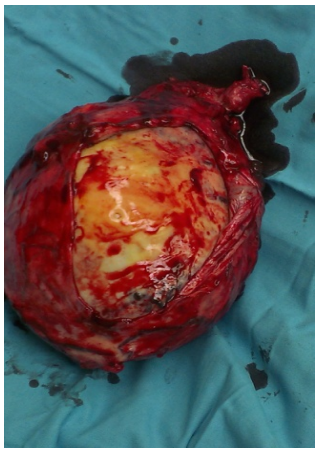

Fig. 2 – Left testis removed.

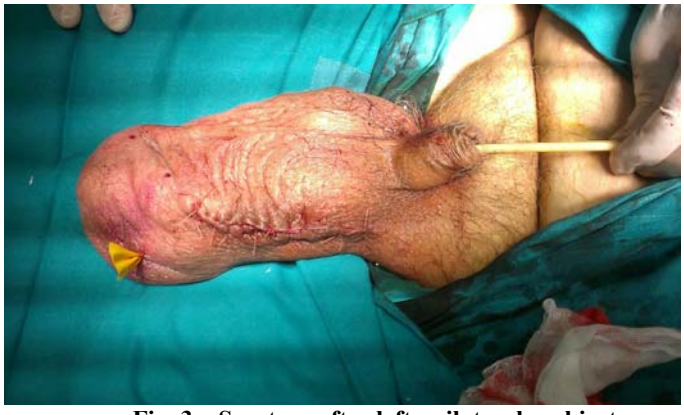

Fig. 3 – Scrotum after left unilateral orchiectomy.

Discussion

In the presented case there was an unusual manifestation of gigantic spermatocytic seminoma as acute scrotum, falsely diagnosed years ago as bilateral hydrocoelae. The true diagnosis was established on surgery which discovered spermatocytic seminoma in the low stage. Our data are consistent with literature facts regarding age, slow growth, low grade, and low metastatic potential. The accent must be made on the establishment of the correct preoperative diagnosis with available diagnostic tools.

However, although this type of tumor is rare and has the excellent prognosis, its hystogenesis and biology are not fully understood. The available data in the literature suggests that long duration of illness can lead to the development of synchronous sarcoma which has high malignant potential for systemic dissemnination [6–8].

In a case report presenting the 12th case of spermatocytic seminoma ever evolution of tumor lasted for 12 months. Development of synchronous sarcoma led to accelerated growth phase. Hystology examination revealed undiferentiated sarcoma [9].

A common sarcoma type that develops from this type of tumor is rhabdomyosarcoma [9, 10].

In another case report a patient was diagnosed with spermatocytic seminoma with synchronous rhabdomyosarcoma. Extensive metastatic disease was also present with retroperitoneal metastasis and visceral metastasis to the lungs and liver [11, 12].

Conclusion

Although spermatocytic seminoma, is a rare type of the tumor with low malignant potential, the presence of synchronous sarcoma worsens the overall prognosis. Individual approach to each patient is required in order to identify systemic spread with more frequent follow-up. Patients with the presence of synchronous sarcoma should undergo chemotherapy in order to prevent locoregional or systemic spread.

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