

# Bilateral Synchronous Testicular Seminoma: Case Report

## Bilateral Eş Zamanlı Testiküler Seminom

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**ABSTRACT** The primary bilateral testicular tumors are very rare. Standard treatment for testicular germ cell tumors is radical orchiectomy. However, organ sparing surgery might be an alternative treatment to orchiectomy in primary bilateral tumours. In this study, we present testis sparing surgery to treat synchronous bilateral tumors. A 36-year-old male patient was admitted with bilateral testicular mass. Serum  $\beta$ -HCG and  $\alpha$ -feto protein level were within normal limits. We performed testis sparing surgery to the patients with bilateral testicular synchronous seminoma in our clinic. We performed left radical orchiectomy and right partial orchiectomy. The examination of left orchiectomy specimen and right testicular hemi-orchiectomy materials revealed seminoma. In this study, we inform that testis sparing surgery for bilateral testicular tumors appears to be feasible and safe procedure in patients.

**Key Words:** Orchiectomy; seminoma; testicular neoplasms

**ÖZET** Primer bilateral testiküler tümörler oldukça nadirdirler. Germ hücreli tümörlerin standart tedavileri orşiektomidir. Ancak organ koruyucu cerrahi, primer bilateral tümörler için alternatif olabilir. Biz bu çalışmada, bilateral eş zamanlı testiküler kanser tedavisi için uyguladığımız testis koruyucu cerrahi sunmaktayız. Otuz altı yaşında erkek hasta bilateral testiküler kitle ile kliniğimize başvurdu. Serum  $\beta$ -HCG ve alfa-feto protein seviyesi normal sınırlarda saptandı. Biz kliniğimizde, bilateral eş zamanlı testiküler seminomu olan hastaya testis koruyucu cerrahi planlayarak sol radikal orşiektomi ve sağ parsiyel orşiektomi uyguladık. Sol orşiektomi ve sağ hemiorşiektomi materyalinin patolojik incelemesi seminom olarak saptandı. Bu çalışmada biz, primer bilateral testiküler seminom için testis koruyucu cerrahinin güvenli ve uygulanabilir bir prosedür olduğunu ortaya koyduk.

**Anahtar Kelimeler:** Orşiektomi; seminom; testis tümörleri

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The primary bilateral testicular tumors are very rare condition, and synchronized tumors are very hardly rare. Recently a report was described on 2.431 germinative testicular tumors diagnosed and treated in MD Anderson Cancer Center, and only 24 of these cases were bilateral, that is, 1% of all tumors.<sup>1</sup> Standard treatment for testicular germ cell tumors is radical orchiectomy, but several groups have suggested an organ sparing approach in patients with bilateral tumors. Organ sparing surgery might be an alternative to orchiectomy in primary bilateral tumors. However, in patients with synchronous bilateral tumors, metachronous contralateral tumors or solitary testicles with normal preoperative testosterone

levels, organ-preserving surgery is an alternative procedure to orchiectomy.<sup>2</sup>

As known, testicular tumors appear more commonly in young men. Testis sparing surgery (TSS) is more important in these patients who need highly to the maintenance of testicular reserve. The organ-preserving methods are the current treatment for bilateral testicular tumors especially in young men which has synchronous tumors. In this study, we have discussed the testis sparing surgery for bilateral synchronous testicular seminoma in a patient.

## CASE REPORT

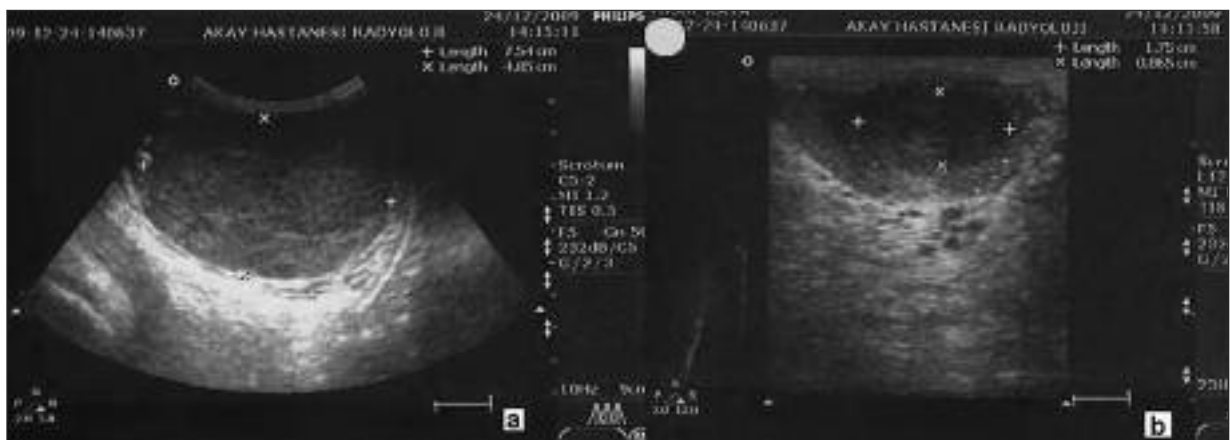
### PATIENT

A 36-year-old male patient was admitted in our clinic for left testicular increased size in last 6 months without history of trauma or infection. Physical examination revealed swollen left scrotum, enlarged left testis and right palpable testicular mass without enlarging. No inguinal or other lymphadenopathy, and no abdominal mass was palpated. Serum  $\beta$ -HCG and  $\alpha$ -feto protein level were within normal limits. Another blood investigations (blood counting, serum urea and nitrogen etc.) were normal. Ultrasonographic examination of the left testis revealed a 7.5 x 6.5 x 5.0 cm and heterogeneous structure, hypoechoic solid mass. The right testis measuring 3.5 x 2.0 x 1.5 cm and hypoechoic solid mass (1.7 x 0.9 cm) were determined (Figure 1).

Scrotal magnetic resonance imaging confirmed bilateral testicular mass without any another pathologic finding. Computerized tomography of the abdomen, pelvis and thorax were normal.

### SURGICAL TECHNIQUE

Surgery for bilateral synchronous testicular tumor was accomplished in two stages. In the first stage, standard radical orchiectomy was performed to the left testis. The second stage, ten days later partial orchiectomy was performed to right testis. In this technique, with standard inguinal incision, the spermatic cord was isolated, suspended and preventively clamped with a softvascular clamp. Then, the testis was exteriorized from the same access. In this position, the testis was cooled by ice slush. The tunica vaginalis was opened and the testis inspected. The mass was localized by digital examination and intraoperative ultrasound. The tumor visualized by the intraoperative ultrasonography and digital examination was completely removed (partial orchiectomy). Examination of frozen tissue sections revealed that the tumor was seminoma, and surgical margin was normal. Post-excision ultrasound was used to show the complete removal of the mass. The spermatic cord was declamped after achieving complete hemostasis. Cold ischemia time was fourteen minutes. The tunica albuginea was closed with running 4-0 absorbable suture, and the testis replaced into the scrotum. The right partial orchiectomy specimen was shown in Figure 2.



**FIGURE 1:** Testicular color duplex ultrasonography demonstrating an 7.5 x 6.5 cm mass in the left testis (a) and 1.7 x 0.9 cm mass in the right testicular lower pole (b).



**FIGURE 2:** Postoperative appearance at the right partial orchiectomy specimen. Surgical margin is completely normal. Normal testicular tissue differentiated from tumoral tissue is easily shown.

### PATHOLOGIC EXAMINATION

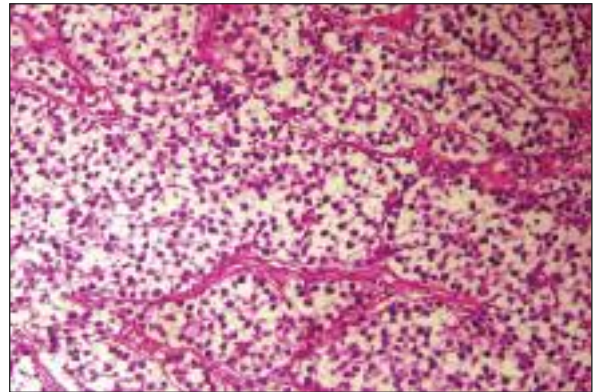
Pathologic analysis of the left testis was determined seminoma. The tumor was pure seminoma without any lymphovascular invasion and anaplasia. (pT1N0M0S0-clinical stage 1A) (Figure 3). The examination of the right partial orchiectomy material was determined pure seminoma without any lymphovascular invasion, and invasion of the rete testis and anaplasia. The surgical margin of the right testicular mass was negative. (pT1N0M0S0-clinical stage 1A) (Figure 4).

### DISCUSSION

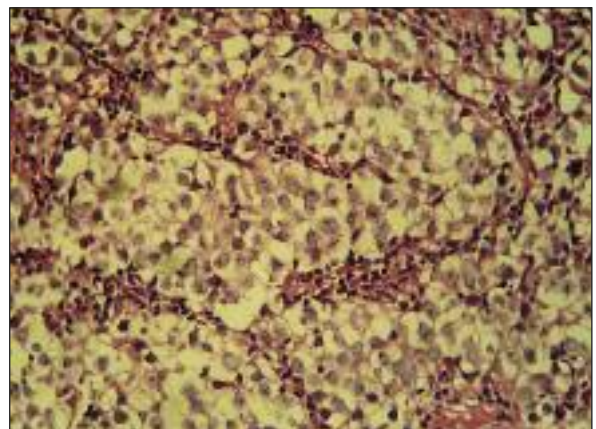
Germ cell tumors with bilateral (synchronous or metachronous) are very rare.<sup>3,4</sup> The incidence of bilateral testicular cancer has varied in different reports published so far and between 0.6 and 2.7%.<sup>1,5</sup> According to the result in MD Anderson Cancer Centre series, bilateral synchronous seminoma cases were described in only 4 cases (0.17%). Seminoma is the most common histologic type in bilateral testicular cancers.<sup>6</sup> Other types are leydig cell tumor and lymphoma of the testis. However, testicular lymphomas occur in aged man and leydig cell tumors occur in young male population gene-

rally. Exact distinction from each other these types can be made by pathologic examination. Consequently, bilateral testicular seminomas especially with synchronous are a rare problem, however it must be treated carefully.

In treatment of bilateral testicular tumors, there are two problems. The first problem is how to treat the testicular cancer bilateral, and the second one is how will support to erection and fertility capacity of patients. The physician should determine what is the appropriate surgical approach for these patients' treatment. The aim of treatment should be organ sparing surgery in patients with bilateral testicular tumors. The surgical method has several advantages such as preservation of testicular tissue, erection capacity and fertility. On the hand, the



**FIGURE 3:** Pathologic examination of the left testicular tumor specimen. Showing classical seminoma cells without any lymphovascular invasion, anaplasia, invasion of the rete testis (Hematoxylin-Eosine, 160x).



**FIGURE 4:** Pathologic examination of the right testicular tumor specimen. A great and atypical seminoma cells in the lymphocytes containing edematous connective stromal tissue is shown (Hematoxylin-Eosine, 200x).

most important disadvantage of (TSS) is local recurrence.<sup>2</sup> Our patient had bilateral testicular tumor and needed a organ sparing surgery. We also performed radical orchiectomy to the left testicular mass with larger tumoral size and partial orchiectomy to the right testis with smaller tumoral size.

As it is known, radical orchiectomy for testicular seminoma is the standart treatment option. On the other hand, TSS have been used in selected patients for several indications (tumor in solitary testis, synchronous or metachronous bilateral tumors, pediatric testicular tumors).<sup>3,7</sup> In the literature, TSS should be applied in the malignant tumors with less than 20 mm and had not invaded rete testis.<sup>2,8</sup> In our patient, the right testicular tumor was not located in rete testis and the maximum tumor sizes were 17 mm, and we performed TSS

for right testicular tumor successfully. With respect to some studies, the local recurrence rate was reported between 3.3% and 7.7% in patients with tumor size more than 20 mm.<sup>2,9</sup> In our patient, the tumor size is less than 20 mm. Therefore, it is expected that the rate of local recurrence was lower. Additionally, we also performed adjuvant radiotherapy to prevent both systemic and local recurrence in the residual testicular tissue.

As a conclusion, bilateral synchronous testicular seminoma is rare. Testis sparing surgery is applicable and feasible procedure for the patients who have been selected. It can be used to bilateral synchronous or metachronous tumors and for avoiding infertility, sexual problems and castration. We suggested this procedure in selected patients who have bilateral tumors.

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