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Evaluation Of Non-Metastatic Testicular Cancer Pathology Results: Our Clinical Experience And Review Of The Literature

Nonmetastik Testis Tümörleri Patoloji Sonuçlarımız: Klinik Tecrübemiz Ve Literatür İncelemesi

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Öz

Giriş: Testis kanseri erkeklerde 10/100000 görülme oranı ile nadir görülen bir malignitedir. Testis kanseri çoğunlukla adolesanları, genç erişkinleri etkilemektedir ve tüm erkek kanserlerinin yaklaşık %1'ini oluşturmaktadır.

Materyal ve Metod: Ocak 2007 ve Temmuz 2016 tarihleri arasında 32 hastaya testis kanseri tanısıyla radikal orşiektomi operasyonu uygulandı ve çalışmaya dahil edildi. Çalışma retrospektif olarak dizayn edildi.

Bulgular: Patolojik materayaller incelendiğinde; 15 hastada (%46.8) mikst germ hücreli tümör, 9 hastada (%28.1) seminom, 1 hastada (%3.1) testiküler lenfoma, 3 hastada (%9.3) yolk sak tümörü, 2 hastada (%6.2) hiposellüler inflamatuar miyofibroblastik tümör(burned-out testiküler tümör), 2 hastada (%6.2) seks kord stromal tümör saptandı.

Sonuç: Çalışmamızda 32 hastanın histopatolojik sonuçları değerlendirildi. Hastalarda takiplerde lenf nodu metastazı veya uzak metastaz saptanmadı ve nüks ile progresyon gözlenmedi. Testis tümörleri tedavi ve yakın takibi önemli üropatolojik antitelerdir. Çalışmada klinik tecrübemiz sunulmuştur.

Anahtar kelimeler: testis; kanseri; rekürrens; metastaz

Abstract

Introduction: Testicular cancer is a rarely seen malignancy in men with a ratio of 10/100000. Testicular cancers are mostly affecting adolescents, young adults and it comprises nearly %1 of all male cancers.

Materials and Methods: 32 patients that were undergone radical orchidectomy due to testicular cancer between January 2007 and July 2016 were included in this study. The design of the study was retrospective.

Results: When the pathologic materials were evaluated; 15 patients (46.8%) had mixt germ cell tumor, 9 patients (28.1%) had seminoma, 1 patient (3.1%) had testicular lymphoma, 3 patients (9.3%) had yolk sac tumor, 2 patients (6.2%) had hipocellular inflammatory myofibroblastic tumor(burned-out testicule tumor), 2 patients (6.2%) had sex cord stromal tumor.

Conclusion: In our study we reviewed the histopathologic results of 32 patients. There were no lymph node or distant metastasis for the patients and during the follow-up program there were no recurrence or progression. Testicular cancers are important uropathologic entities for treatment and close follow-up. Our clinical experience has been presented in the study.

Key words: testicular; cancer; recurrence; metastasis

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Introduction

Testicular cancer is a rarely seen malignancy in men with the ratio of 10/100000[1]. Testicular cancers are mostly affecting adolescents, young adults and it comprises nearly 1% of all male cancers[2]. Testicular cancers are mainly classified in three groups as germ cell tumors, sex cord stromal tumors and miscellaneous tumors[1]. There are several risk factors that include: cryptorchidism, hypospadias, sub/infertility, testicular cancer history in first-degree relatives, contralateral testicular tumors, traumas[1,2]. Testicular germ cell tumors accounts for 95% of all testicular cancers and they are mainly divided into three subgroups: seminomas, non-seminomas and spermatocytic seminomas[3, 4]. There are some diagnostic tools and reliable markers for staging testicular cancers[1,5]. Testis ultrasonography, chest computerised tomography (CT) and abdominopelvic CT are main diagnostic imaging techniques for staging[1, 5]. Ultrasonography is very sensitive for detecting scrotal pathologies[6]. Mainly, seminomas are homogenously hypoechoic and non-seminomas are non-homogenously hypoechoic[6]. Testicular microlithiasis would also be detected with ultrasonography and the prevalence of testicular microlithiasis has been reported between 2.4% and 5.6%[7]. Microlithiasis is mostly bilateral, stable and the classic type[8]. Some studies showed the relation between testicular microlithiasis and testicular cancer, also a study by Lim et al. revealed that diffuse testicular microlithiasis and cryptorchidism tends to increase the calcific density[7, 8]. Alfa-fetoprotein(AFP), beta-human chorionic gonadotropin(b-hCG) and lactate dehydrogenase are the main serum markers[1, 5]. Intratubular germ cell neoplasia(ITGCN) is a precursor for testicular cancer[9]. Some studies revealed that, small masses are mostly benign and a corelation between the size of the mass and the malignancy rate[10]. Radical orchiectomy is the standart treatment for malignant testicular masses[11]. Radical orchiectomy has some advantages like accurate diagnosis and tumor control also some disadvantages as it causes organ loss and overtreatment for benign diseases[11]. Studies showed the correlation between frozen-section analysis and final pathology so that frozen-section analysis is a valid method[12].

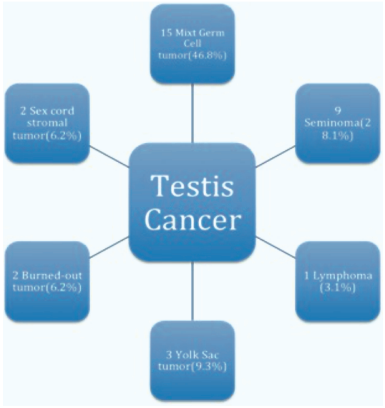
Methods

The study was designed as a retrospective study and academic approval was gained from Kecioren Research and Training Hospital Academic Research Council 32 patients that were undergone radical orchidectomy due to testicular cancer between January 2007 and July 2016 were included in this study. The design of the study was retrospective. Ultrasonography was used for the detection of testicular masses and MRI was used when necessary. Detailed laboratory findings were assesed. Alfa-fetoprotein(AFP), beta-human chorionic gonadotropin(b-hCG) and lactate dehydrogenase were used as serum biomarkers. Pathologic results of the patients were classified and TNM classification system was used for staging.

Results

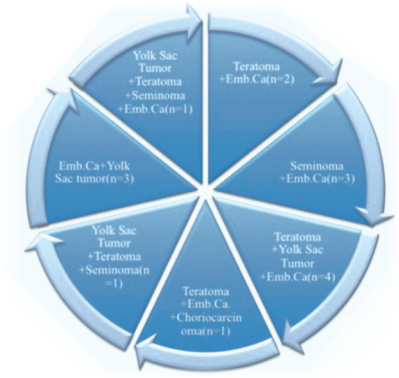
In our study we reviewed the results of 32 patients that were undergone radical orchidectomy. While evaluating the results of 32 patients, the mean age was 37,2. When we analysed medical histories of the patients, first-degree relatives of 2 patients had history of testicular tumor. Between that, 1 patient had history of cryptorchidism and 8 patients had additional diseases.

When the pathologic materials were evaluated; fifteen patients (46,8%) had mixt germ cell tumor, nine patients (28,1%) had seminoma, one patient (3,1%) had testicular lymphoma, three patients (9,3%) had yolk sac tumor, two patients (6,2%) had hipocellular inflammatory myofibroblastic tumor(burned-out testicule tumor), two patients (6,2%) had sex cord stromal tumor. (Graphic 1) When analysing the patients with mixt germ cell tumor; three patients had Seminoma + Embriyonal carcinoma, three had



Graphic 1: Testis cancer - Histolopathologic types

Embriyonal carcinoma + Yolk Sac tumor, two had teratoma+embriyonal carcinoma, four had Yolk Sac tumor + teratoma + embriyonal carcinoma, one had embriyonal carcinoma + teratoma + choriocarcinoma, one had Yolk Sac tumor + teratoma + seminoma ve one had embriyonal carcinoma + teratoma + seminoma + Yolk Sac tumor (Graphic 2). According to the TNM classification system for Mixt Germ Cell tumors 2 had T3, eight had T2, four had T1 grades and the mean tumor size was 5.6 cm. For seminomas; 1 had T2, 8 had T1 grade and the mean tumor size was 6cm. The case with Lymphoma (Diffuse Large B cell Lymphoma) was T1 grade and the size was 7.5 cm. Yolk Sac tumors were T1 grade and the mean tumor size was 4.5 cm. Burned-out testicular tumors had 4.4 cm mean size and they were T1 grade. Sex cord stromal tumors were 2.2 cm mean size and they were T1 grade. There were no lymph node or distant metastasis for patients.



Graphic 2: Mixt germ cell tumors

Discussion

Testicular cancer is a rare pathologic entity and nearly accounts for 1-2% of all male malignencies but recently the incidence is increasing[13]. It is most commonly seen in young males[2, 14]. Scrotal ultrasonography, chest, abdomen and pelvis computerised tomography, serum tumor markers such as alpha-fetoprotein (AFP), beta-human chorionic gonadotropin (b-hCG) are used for the diagnose of testicular cancer[15]. Some studies showed underestimation of testicular mass sizes when it is measured by ultrasonography in 25% of the cases[6]. Germ cell tumors are more common than the other pathologic types[12]. Patients with testicular cancer are treated by orchidectomy plus surveillance or orchidectomy plus adjuvant radiotherapy or chemotherapy in early stages but for the patients with stage 2 or higher stages definitive therapy is preferred[16]. Zores et al. showed similar survival rates after chemotherapy and radiotherapy for clinical stage I seminomas[17]. Especially for young patients there are lots of long-term risks after radiotherapy[18]. For the patients with bilateral testicular tumors or solitary testis, orchidectomy may cause infertility and androgen deficiency[12]. Testis-sparing surgery is an option for these patients and especially for small testicular masses it must be considered because they are mostly benign[12]. Risk adapted treatment is a logical option for especially clinical stage I seminomas and active surveillance is the treatment of choice according to EAU guidelines[19]. Some studies showed the failure of tumor size and rete testis invasion as indicators of relapse rate[20]. Yolk sac tumors are the most common types of prepubertal malignant testicular tumors and the prognosis depends on the stage of diagnose[15]. Pure teratoma would be associated with metastasis of germ cell tumor and retroperitoneal lymph node dissection can be considered as an option[21]. Lauritsen et al. showed serious late toxicities for the patients who had multi treatment options for disseminated disease and they indicated the importance of life-long follow up for these patients[22].

Conclusion

Testicular cancer is a rare pathologic entity with several treatment methods. In our study we reviewed the histopathologic results of 32 patients. There were no lymph node or distant metastasis for the patients and during the follow-up program there were no recurrence or progression. We used active surveillance after radical orchidectomy for most of the patients but for higher stages we consulted patients to medical oncology department for adjuvant chemotherapy.

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