Medical Quiz Answers

A1. Scrotal ultrasound in figure 1 and abdominal CT scan in figure 2.

A2. Left testicular mass in ultrasound and metastatic para-aortic lymph node in CT scan.

A3. Left testicular cancer. Inguinal orchiectomy.

DISCUSSION

Testicular cancers are rare tumors accounting for approximately 1% of all male malignant tumors. Testicular cancer has three peaks: infancy (yolk sac tumors and teratomas), ages 25-40 years (seminomas and non-seminomas), and age 60 years and above (spermatocytic seminomas). More than 95% of testicular cancers are germ cell tumors in origin (seminomas and non-seminomas), but it could be derived from any cell found in the testicles. The remaining 5% are sex-cord stromal tumors derived from Sertoli cells or Leydig cells. Lymphomas of the testicle are rare[1-4].

The highest prevalence of testicular cancer is in the U.S.A and Europe and is uncommon in Asia and Africa (rates are lower in the developing than the developed world). It is not clear why such a huge difference exists, and much has to be done to clarify the different epidemiologic findings[1-4].

Major risk factors for the development of testicular cancer include undescended testis, a previous history of contralateral testicular cancer, and family history of the disease[2-4].

The clinical presentation may include one or more of the following: a testicular mass which may or may not be painful, lower abdominal pain, low back pain, and gynecomastia. Other symptoms related to metastatic spread to the lungs may include hemoptysis, dyspnea, and cough. Another presentation is a swelling in the neck as a result of the metastatic spread of cancer to the lymph nodes. The onset of testicular cancer most commonly occurs in males 20 to 34 years old, rarely before 15 years old[3-6].

The diagnosis of testicular cancer depends on history, physical examination, tumor markers, ultrasound, and surgical removal of the testicle. The differential diagnosis may include the following: orchitis, epididymitis, varicocele, hematocele, testicular appendix, inguinoscrotal hernia or testicular torsion[7,8].

Testicular cancer treatment is dependent on staging: Stage I remains localized to the testis. Stage II cancer metastasize to retroperitoneal and/or paraaortic lymph nodes. Stage III cancer metastasize beyond the retroperitoneal and paraaortic lymph nodes[7-10].

Treatment options of testicular cancer may include surgery (orchiectomy), radiation therapy, chemotherapy, or stem cell transplantation, depending on the type of testicular cancer and the stage of the disease. Chemotherapy offers a cure rate greater than 80% in cases with metastatic spread. The five-year survival rate depends on the stage of the disease and outcomes are better when the disease remains localized[9,10].

The overall cure rates after surgery of more than 95% for non-metastatic disease were reported, and it is attributed primarily to effective chemotherapy drugs[9-10].

CONCLUSION

Testicular cancer is a rare tumor in men. The most common presentation is scrotal mass. The management and outcome depends on the stage of the disease and the histological type of the cancer.

Potential Conflicts of Interest: None.

Competing Interest: None.

Sponsorship: None.

Acceptance Date: 18 April 2010.

Ethical Approval: Approved by the Department of Pediatrics, Salmaniya Medical Complex, Bahrain.

REFERENCES

1. Ferlay J, Bray F, Pisani P, et al. Cancer Incidence, Mortality, and Prevalence Worldwide. Version 1.0. Lyon: IARC Cancer Base, IARC Press, 2001.
2. Lip SZ, Murchison LE, Cullis PS, et al. A Meta-analysis of the Risk of Boys with Isolated Cryptorchidism Developing Testicular Cancer in Later Life. Arch Dis Child 2013; 98(1):20–26.
3. Rajpert-De Meyts E, McGlynn KA, Okamoto K, et al. Testicular Germ Cell Tumours. Lancet 2016; 387(10029):1762–1774.
4. Haugnes HS, Wethal T, Aass N, et al. Cardiovascular Risk Factors and Morbidity in Long-term Survivors of Testicular Cancer: A 20-year Follow-up Study. J Clin Oncol 2010; 28(30):4649–4657.
5. Fung C, Fossa SD, Milano MT, et al. Cardiovascular Disease Mortality after Chemotherapy or Surgery for Testicular Nonseminoma: A Population-based Study. J Clin Oncol 2015; 33(28):3105–3115.
6. Ostrowski KA, Walsh TJ. Infertility with Testicular Cancer. Urol Clin North Am 2015; 42(3):409–420.
7. Coursey Moreno C, Small WC, Camacho JC, et al. Testicular Tumors: What Radiologists Need to Know—Differential Diagnosis, Staging, and Management. Radiographics 2015; 35(2):400–415.
8. Kim W, Rosen MA, Langer JE, et al. US MR Imaging Correlation in Pathologic Conditions of the Scrotum. Radiographics 2007; 27(5):1239–1253.
9. Gumus M, Bilici A, Odabas H, et al. Outcomes of Surveillance versus Adjuvant Chemotherapy for Patients with Stage IA and IB Nonseminomatous Testicular Germ Cell Tumors. Word J Urol 2017; 35(7):1103–1110.
10. Petrelli F, Coinu A, Cabiddu M, et al. Surveillance or Adjuvant Treatment with Chemotherapy or Radiotherapy in Stage I Seminoma: A Systematic Review and Meta-analysis of 13 Studies. Clin Genitourin Cancer 2015; 13(5):428–434.