Neo Adjunct Chemotherapy on Testicular Cancer after Scrotal Exploration: A Case Report

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Abstract

BACKGROUND: A case of testicular cancer treated with neo adjuvant therapy in a patient in male is rare. When testicular cancer presents, it is usually directly operated due to the size of cancer which presented within the order of operable size.

CASE PRESENTATION: Here, we report a rare case of a 5-year-old male patient presented to the emergency room (ER) due to mass on the scrotum without the difficulty of urination. From clinical findings, mass with a size of 15 x 10 cm was found with multiple abscesses on both sides of the scrotum. Pathological Anatomy Examination confirmed yolk sac tumour present within the scrotal mass. Initially, palliative chemotherapy took place to reduce the growth rate of the tumour. However, due to the responsiveness of testicular cancer to chemotherapy drugs, it reduced into operable size testicular cancer. Wide excision and Orchidectomy was then performed, followed by adjuvant chemotherapy.

CONCLUSION: This case report showed the possibility of using neo adjuvant chemotherapy as an alternative treatment when inoperable testicular cancer presented in hospital.

Introduction

In children, testicular tumours are uncommon, with an incidence of approximately 0.5 – 2.0 per 100,000 individuals and comprise about 1 – 2% of pediatric malignancies [1], [2], [3]. One study suggested that testicular tumours may be more common in Asian than in Caucasian children [4].

Testicular cancer represents the most common malignancy in males aged 15-34 years [5]. Histopathologically, testicular germ cell tumours are divided into two major groups: pure seminoma and nonseminoma. The pathogenesis of testicular germ cell tumours remains unknown; however, although recently questioned [6], cryptorchidism is the main risk factor, and molecular studies have shown strong evidence of an association between genetic alterations and testicular germ cell tumours [7]. Nearly 40% of the cases correspond to seminomas, and three-quarters of them are diagnosed with stage I of the disease [5]. Although testicular cancer has excellent cure rates, the choice of treatment centre is of utmost importance. Expert centres achieve better results for both the early-stage testicular cancer (lower relapse rates) and overall survival (higher stages within clinical trials) [8].

Seminomas are more sensitive to chemotherapy and radiation therapy; therefore, they are easier to cure than non-seminomas. The surgical treatment is either orchietomy or orchidectomy plus lymph node dissection of the involved ganglia followed by adjuvant chemotherapy. Testicular cancer treated with neo adjuvant therapy was rare, due to the operable size of commonly found testicular cancer.

Case Report

A 5-year-old Indonesian male with a size of 15 x 10 cm soft tissue mass with multiple absesses on
both side of the scrotum was presented to the emergency room. The patient stated that the lesion had been presented for 2 years. It appeared initially as an itchy mass appeared on the left side of the scrotum and grew bigger. The overlying skin surface was presented with erythema, multiple abscesses and sinus tracts. The lesion was indurated and tender (Figure 1). The bilateral testis cannot be identified even though penile and meatal can be identified. The patient had no difficulty of micturition.

Secondary examinations such as blood test as well as Ultrasonography, Chest x-ray and Computed Tomography (CT) scan was performed to the scrotum. The blood test result showed increased zero marker value, which ensured the presence of testicular cancer. Ultrasonography of the scrotum showed enlargement of the left testis while right testis was found within normal limit. Abdominal CT-scan examination also showed enlargement on the left testis but limited only to the scrotum (Figure 5).

However, after four chemotherapy treatments, the size of testicular cancer was significantly reduced to operable size (Figure 2) as it was confirmed by the abdominal CT-scan (Figure 6).

Therefore, we decided to do wide excision and orchidectomy on the left testis (Figure 3). Lymphadenectomy was also done in conjunction with previous surgery to remove an enlarged lymph node. It was then followed by four times adjuvant chemotherapy.

One month after the last chemotherapy, a patient came control to the outpatient clinic. The scrotum was appeared to be within normal limit. There was neither induration nor tenderness found in the scrotum.

The overlying skin surface was also presented within the normal limit (Figure 4). A chest x-ray also showed lungs within normal limit.
Most types of tumours contain distinct populations of cells. A small fraction of these is stem cells, which can grow new tumours from a single cell and are extremely resistant to therapy. Often, other types of tumour cells are killed off during treatment, but cancer stem cells survive, then drive relapse by re-growing new tumours. However, when testicular cancer stem cells are exposed to chemotherapy, those stem cells are more sensitive to it than other cells in the tumour [14].

The use of neo adjuvant chemotherapy has led to a dramatic improvement in the cure rate of patients with metastatic germ cell tumours (GCTs). The high responsiveness of testicular cancer was achieved even in inoperable size of testicular cancer. After that, the goals of the patient changed from palliative into curative by the introduction of neo adjuvant chemotherapy, followed by surgical treatment and adjuvant chemotherapy.

In conclusion, testicular cancer treated with neo adjuvant chemotherapy is unusual as the mainstay treatment for testicular cancer is directly surgical and followed by adjuvant chemotherapy. This case presented the inoperable size of testicular cancer in which palliative chemotherapy takes place to reduce the growth rate of testicular cancer. However, due to the responsiveness of testicular cancer to chemotherapy agent, it reduced the initial size into an operable size, which later on able to follow the treatment stated in guidelines. This case report showed the possibility of using neo adjuvant chemotherapy as an alternative treatment when inoperable testicular cancer presented in hospital.

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