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Testicular Cancer - The Great Masquerader

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Abstract

Purpose: Testicular cancer is rare with increasing incidence worldwide. Testicular cancer can mimic many other diseases leading to delay in diagnosis. Delays in diagnosis and management of testicular cancer are associated with advanced stage, increased morbidity and poor prognosis. This case report aims to highlight a case of testicular cancer who presented with metastasis due to delays in testicular cancer diagnosis and ways to improve diagnosis.

Methodology: The study focused on a 17-year-old boy presented with severe intermittent abdominal pain for a month. He was reviewed by the general physicians, internists, haematologists, radiologists, general surgeons and urologists. He was given several diagnoses before he was correctly diagnosed as advanced right testicular cancer. It took a total of 31 days in a tertiary institution to reach this diagnosis.

Findings: The boy had a radical right inguinal orchidectomy. He had 4 courses of bleomycin, etoposide and cisplatin chemotherapy. He made remarkable recovery after treatment. A follow up was recommended closely with abdominal CT, and serum tumour markers (reverted to normal after treatment).

Recommendations: Prompt diagnosis of testicular cancer can reduce treatment delays. Physician education, adequate patient evaluation, investigations, and a high index of suspicion would aid diagnosis. Health awareness campaign, testicular self-examination, and good health insurance schemes would reduce patient-related factors which result in delays. Reduction in diagnostic delay is expected to improve outcome and reduce cost of management of the disease.

Keywords: *Testicular cancer, diagnostic delay, chemotherapy.*

Introduction

Testicular tumours are rare and make up 1% of male malignancies, with increasing incidence in the western world.¹ They constitute the most common solid malignancies in men between 15 and 39 years.¹ The incidence of testicular cancer in Africans is relatively low, it is 1.5 case per year in South Western Nigeria, Ile-Ife.² The prevalence in Northern Nigeria, Kano is 2.2%,³ and the incidence in Port Harcourt is 0.01%.⁴ and 0.9% in Tanzania.⁵ Testicular cancer can present in different ways and can mimic other diseases.⁶ Careful clinical evaluation and targeted investigation would aid diagnosis even in unusual presentations.⁶ This is a report of a case encountered in the University of Port Harcourt Teaching Hospital.

Cryptorchidism, being European and white seems to be a risk factor associated with testicular cancer.⁷ Socioeconomic indices, alcohol drinking, inactivity, overweight, obesity, and high plasma lipid levels are associated with testicular cancer incidence and mortality.⁸ Occupational exposures such as firefighting, air craft maintenance, and exposure to organochloride pesticides are associated with increased risk of testicular cancer.⁹ A good history, systematic examination (including scrotal examination) and investigations are needed to make a diagnosis of testicular cancer. Testicular cancer usually presents as a painless lump. A scrotal ultrasound scan usually detects testicular cancer as a hypoechoic area within the tunica albuginea.¹⁰ Staging is done using chest and abdominal CT scan. A radical inguinal orchidectomy is both diagnostic and therapeutic.^{10,11} Treatment options after radical orchidectomy include adjuvant therapy, radiotherapy and active surveillance.^{11,12} Follow up vary based on the anatomical extent of disease, serum tumor markers, pathologic diagnosis, and imaging.¹¹ Survival has greatly improved in the platinum based chemotherapeutic agent era.

Case Presentation

A 17-year-old male secondary school leaver presented to the general outpatient department with a history of severe abdominal pain. The pain was insidious in onset, located at the right lumbar and left iliac region. The pain was severe and radiated to the lower back. The pain was intermittent, with no aggravating or relieving factor. He had post prandial vomiting and abdominal distension. He was not constipated. There was a history of high-grade fever which was worse at night associated with drenching night sweats. There was also marked weight loss and generalized body weakness. Examination revealed a chronically ill looking boy in painful distress, pale, afebrile, anicteric, moderately dehydrated, no peripheral lymphadenopathy and no pedal oedema. His body mass index (BMI) was 16.1kg/m² (18.5-24.9kg/m²).

There was generalized abdominal tenderness, but no guarding. There were multiple non-tender firm masses in the abdomen. The largest measured 6cm by 6cm. Both kidneys were not ballotable. There was no demonstrable ascites. A number of different specialties reviewed this patient (as shown in Table 1) and arrived at different diagnosis because testicular cancer can mimic other conditions, hence acting as a masquerade. Until a history of scrotal swelling and proper systematic physical examination was carried out the diagnosis of testicular cancer was never suggested. He subsequently had a scrotal ultrasound scan and a computerized tomography scan done, then diagnosis of metastatic testicular cancer was made.

Table 1: Showing the different specialties that reviewed the patient and the diagnosis made by each specialty.

Consultation	Diagnosis	Reasons
General physicians	Abdominal tuberculosis	Fever, weight loss, night sweat
Internists first review	Lymphoma	Multiple abdominal masses, weight loss
Internists repeat review	Abdominal paraganglioma	CT findings of a suspected adrenal mass, persistently elevated blood pressure
General surgeons	Partial intestinal obstruction	Persistent vomiting, abdominal swelling
Haematologists	Non-Hodgkin's lymphoma	Weight loss, multiple abdominal masses, scrotal swelling
Urologist	Right testicular cancer	Painless right testicular swelling, loss of testicular sensation

The boy had a radical right inguinal orchidectomy on the 32nd day of admission. Histological report confirmed testicular yolk sac tumour. Ten days later, he had 4 cycles of bleomycin, etoposide and cisplatin (BEP). The patient's abdominal masses disappeared after chemotherapy. His weight improved to 59kg and his BMI is normal presently, his tumour markers and CT scans have been normal.

Discussion

Testicular cancers are a model for curable cancers since the cisplatin era in developed countries.¹¹ In Africa late presentation is a challenge.⁴ Testicular cancer can mimic many other diseases.^{6,13} In this case, patient had a bone marrow biopsy and almost underwent an exploratory laparotomy for intestinal obstruction prior to diagnosis. About 90% of testicular tumours are germ cell tumours.¹¹ Germ cell tumours are divided into seminomatous and non seminomatous tumours. Yolk sac tumour is a type of non seminomatous tumour. Yolk sac tumours are rare in adults.¹⁴ However, in Illorin, Nigeria, yolk sac tumours are the most abundant testicular tumours.¹⁵ Yolk sac tumours are also the most common prepubertal tumours.¹⁶ Histologically, Schiller Duval bodies which resemble endodermal sinuses are seen in 50% of cases. Hence, the alternate name, endodermal sinus tumours. Schiller Duval bodies were found in the testicular sample of the index patient.

Tumour markers are critical in diagnosing, prognosticating and monitoring testicular cancers.¹¹ Alphafetoprotein is frequently elevated in patients with yolk sac tumour.¹⁶ However, in the index case, alphafetoprotein was normal. Beta human chorionic gonadotrophin (β HCG) was elevated in this patient. If this test was conducted by the doctors, it may have served as a pointer to a possible testicular cancer and this would have led to an earlier diagnosis. He had abdominal lymph nodes, pathological examination of resected tumour revealed invasion of the cord. β HCG levels though elevated, were less than 5000mIU/ml and CT revealed no extranodal metastasis. This puts the patient at a tumour, node and metastasis (TNM) stage of pT₃N₃M₀S₁ and a stage grouping of II c.⁶ It also meant that his international germ cell cancer collaborative group (IGCCCG) prognostic factor was good.¹ These factors could have accounted for his good outcome with treatment so far.

Patient related delays before presentation in the hospital have been well documented by Ugwumba et al.¹⁷ Salako et al.² and Chayla et al.⁵ Cost of medical care is also a reason for

delays in resource poor settings,¹⁷ and even the developed world.¹⁸ Late presentation is due to ignorance, fear of consequences, strong belief in traditional medicine, religious believes.^{3,5,18} The index patient noticed the testicular swelling three months before presentation. Ignorance was a reason for his late presentation. He said the right testicular mass was painless and did not bother him. Sexual partners of patients are a driving force in seeking medical care.⁹ The index patient had no sexual partner at the time. Another reason for the delay was an absent scrotal examination at presentation. A thorough systematic physical examination (including a scrotal examination), would have aided diagnosis. The doctors were more concerned about the abdominal symptoms and signs, and paid less attention to the scrotum. Reports of similar cases were noted by Dieckmann.¹³

Also, scrotal scan was not initially requested. A scrotal scan has a sensitivity of almost a 100%.^{11,19} In the index case a scrotal scan picked up the tumour. The urologists were invited days after the testicular mass was identified. Prompt referral to the urologist has been shown to reduce diagnostic delay. Testicular cancer is rare, so doctors misinterpreted the classical signs of the disease because of its unfamiliarity.^{8,13} Delays in diagnosing non seminomatous germ cell tumours can lead to advanced stage of disease at diagnosis, need for more chemotherapy doses, relapse and need for second line chemotherapeutic agents, increased morbidity, increased cost of treatment and poor prognosis.⁴ The effects of diagnostic delay on outcome of seminoma are debatable because of its response to cisplatin and radiotherapy.^{4,19} Prompt diagnosis of rare conditions like testicular cancer, can be made through thorough clinical evaluation, targeted investigations and early referral to the urologists. Health awareness campaign to reduce ignorance, and testicular self-examination would aid early diagnosis. Provision of functional health care centers with functioning facilities would reduce diagnostic delays.

Recommendations

Prompt and adequate diagnosis of testicular cancer can reduce treatment delays. Physician education, adequate patient evaluation, investigations, and a high index of suspicion would aid diagnosis. Health awareness campaign, testicular self-examination, and good health insurance schemes would reduce patient-related factors which result in delays. Reduction in diagnostic delay is expected to improve outcome and reduce cost of management of the disease. In addition, public enlightenment about testicular cancers can increase awareness in society.

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