

## Testicular seminoma: Clinical presentation and management of local recurrence

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Received - 03 January 2020

Initial Review - 19 January 2020

Accepted - 06 February 2020

### ABSTRACT

Over 95% of testicular cancers are curative, with surgery alone. Local recurrence of testicular cancer though reported less but frequently involves the scrotal and inguinal regions, including superficial inguinal lymph nodes. We describe a case of local recurrence of testicular cancer in a non-violated scrotum, a finding that has not been previously reported in the literature. A 37-year-old male laborer presented with swellings in the right side scrotum and the right side inguinal region for 1 month. Histopathology was suggestive of seminoma right testis, after which the patient was given bleomycin, etoposide, and cisplatin chemotherapy, which included six cycles with an interval of 2 weeks followed by 20 cycles of radiotherapy cobalt 60, i.e., 20 cycles for 1 year. After chemotherapy, the patient reported by presenting symptoms in our hospital. For further evaluation of swellings in scrotum and groin, a series of investigations were carried out, which included blood and radiological investigations to confirm the diagnosis which was suggestive of local recurrence at the incision site as well as in the scrotum. The oncologist opinion suggested to administer regime (vinblastine, ifosfamide, and cisplatin) for four cycles and was assessed with follow-up.

**Key words:** Cancer, Chemotherapy, Swelling, Testis

Testicular cancers are a rare type of cancers, accounting for approximately 1% of all male cancers globally. However, among other cancers in males, testicular cancer is the most common cancer diagnosis among males between the ages of 15 and 40 years [1]. India has the lowest testicular cancer incidence of 1.7% (-2.5; -0.8) [1,2]. In 2015, estimated 10–50 individuals were diagnosed with testicular cancer in Canada. With current treatment modalities, testicular cancers have an excellent prognosis; the 5-year survival rates are well over 95% [2]. Surgeries are not only therapeutic and diagnostic but also often curative [2]. Relapse rates reported in the literature vary according to the stage and modality of treatment used [3].

We wanted to enlighten on presenting a case of local recurrence of operated testicular malignancy in an unviolated scrotum because recurrence of testicular malignancy is a rare entity and with less elaborated literature support. Hence, the need to report and to look on and the proper management of such cases was the central idea in reporting the case report. Our intention with this report was to review treatment outcomes and patterns of failure for a patient with recurrence of a tumor after high inguinal orchidectomy.

### CASE REPORT

A 37-year-old male laborer came to the hospital with a chief complaint of swelling in the right side scrotum for 30 days, which was insidious in onset and gradually progressive in size.

Another swelling was also present in the right inguinal region. The patient had a history of significant loss of weight and appetite with no history of any comorbidity such as hypertension, diabetes mellitus, and tuberculosis (pulmonary or extrapulmonary). The patient had a history suggestive of testicular mass in the right side scrotum, for which he underwent surgery with high inguinal orchidectomy 1½ years ago.

The patient was then subjected to a series of investigations, in which blood investigations included tumor marker due to a previous history of high inguinal orchidectomy such as serum levels of alpha-fetoprotein which was suggestive of a two-fold increase in 1210 ng/dl and lactate dehydrogenase levels were 593.3 U/l. Serum B human chorionic gonadotropin was <2 mIU/mL.

The patient also underwent ultrasonography (USG) of the local region which was suggestive of heterogeneous mass/lesion measuring 3.3 cm × 4.3 cm × 3.8 cm in the right side scrotal sac. On color Doppler, it was hypervascular testis and epididymis was not visualized in the right side, left side testis was normal. A well-defined heterogeneous mass was noted in the right inguinal region measuring 3.3 cm × 4.4 cm × 4.1 cm with few hyperechoic areas suggestive of calcification. The patient also underwent contrast-enhanced computed tomography (CT) of the abdomen for further evaluation, which was suggestive of recurrence with metastatic lymphadenopathy with a metastatic deposit in the right anterior abdominal wall with lung metastasis. Fine-needle aspiration

from the swelling in the right inguinal region was suggestive of metastatic deposit of germ cell tumor probably seminoma.

The patient had previously taken treatment for similar complaint, i.e., a tumor of the right testis, for which he was operated with high inguinal orchidectomy whose histopathological analysis was suggestive of anaplastic seminoma of the testis followed by which the patient had received adjuvant chemotherapy with bleomycin, etoposide, and cisplatin regime of six cycles at an interval of 3 weeks between each cycle. The patient has also taken radiotherapy with cobalt 60 a dose of 20 Gy consisting of 20 cycles for 1 year (no detailed documentation was available).

After chemotherapy, the patient reported by presenting symptoms and came to our hospital. On examination, the patient was vitally stable. Pallor was present, but icterus and cyanosis were absent. Level II cervical lymphadenopathy of size 1 cm × 1 cm was present which was smooth to firm in consistency, non-tender and fixed to the underlying structures. On local examination, the swelling of the scrotum was approximately 8 cm × 6 cm in size, fixed to the skin and non-tender. The swelling of the inguinal region was approximately 12 cm × 4 cm in size, oval in shape, hard in consistency, fixed to the skin, and underlying structure. Both the swellings have no signs of inflammation. There was evidence of a scar mark of previous high inguinal orchidectomy surgery (Fig. 1).

After taking into consideration all the above history and clinical presentation of the patient, vinblastine, ifosfamide, and cisplatin therapy for three cycles at 21 days interval were started. The patient was entitled to follow-up for chemotherapy every 3 weeks, and the response was documented photographically. After giving the chemotherapy, the patient responded with a fast recovery with a decrease in both swellings. After two cycles of chemotherapy, the swelling reduced to approximately 5 cm × 3 cm and 3 cm × 4 cm in the inguinal region and scrotum, respectively. After the third cycle of chemotherapy, swelling in the right inguinal region and scrotum was markedly reduced and was very less appreciated on palpation (Fig. 2).

## DISCUSSION

India, China, and Colombia have the lowest incidence of testicular cancers of 0.5, 1.3, and 2.2 per 100,000 men, respectively, across

the world [4]. Testicular cancer can recur both locally and at distant sites. Local recurrence involves disease in the scrotal or inguinal regions, including superficial lymph nodes. Distant recurrence includes all other sites such as pre- and para-aortic lymph nodes, liver, lungs, and brain, including biochemical recurrence seen by a rise in serum tumor markers [2].

Late recurrences of testicular malignancy are rare instances and also less reported in the literature. This case report reviews that management of local recurrence shows a good response to chemotherapeutic management that remains excellent. The accurate initial staging of patients with modern imaging methods together with expert pathology the review is important to ensure the patient receives the correct treatment. In our case, the patient was treated with vinblastine, ifosfamide, and cisplatin therapy for three cycles at 21 days interval.

CT scans are useful to evaluate the patient. Recent scans are suggestive of a reduction in the sizes of lesions as compared to the previous scans. With no metastasis in lungs or lung field. Over 95% of testicular cancers are curative, often with surgery alone. Radical inguinal orchidectomy with high ligation of the spermatic cord is the standard of care in the initial treatment of testicular cancer. The inguinal approach is preferred over scrotal manipulations to prevent disturbance to lymphatic drainage and thus avoiding the potential spread of disease. Violation of the scrotum is defined as any trans-scrotal intervention that can impact tumor seeding.

Scrotal violation in relation to testicular cancer can include open testicular biopsy, fine-needle aspiration, trans-scrotal orchidectomy or previous repair of inguinal hernias, and hydrocolectomies. In such cases, a variety of adjuvant treatments, including hemiscrotectomy, inguinal lymph node dissection, local radiation, and chemotherapy, have been suggested. These subsequent treatments are aimed at preventing recurrence of disease and can often adversely affect patient morbidity [5,6].

This case report confirms that the outcome of the patient who is treated with initial chemo and radiotherapy and later with vinblastine, ifosfamide, and cisplatin therapy for recurrence has excellent results. A study conducted by Suzuki *et al.* stated that recurrence was observed in Stage III and non-seminomatous disease and was treated with chemotherapy and radiotherapy, and patients were followed with regular CT scan and USG [7].



Figure 1: (a-b) Swellings in the right side groin and the right side scrotal wall



Figure 2: (a-b) Post chemotherapy regression of swellings in the groin and scrotal wall

## CONCLUSION

Research on mechanisms of local recurrence of testicular cancer in a non-violated scrotum is limited. The clinically important information for testicular cancer patients can be drawn from this case report. A close surveillance of these patients is required with serial imaging to monitor for the local/distant recurrence.

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*Funding: None; Conflicts of Interest: None Stated.*

**How to cite this article:** Chowksey SR, Sawarkar S. Testicular seminoma: Clinical presentation and management of local recurrence. Indian J Case Reports. 2020;6(2):73-75.

<https://doi.org/10.32677/IJCR.2020.v06.i02.010>