

An Unusual Combination of Non-Seminomatous Mixed Germ-Cell Tumor of Testis

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Citation

D Belekar, V Dewoolkar, A Desai, J Anam, M Parab. *An Unusual Combination of Non-Seminomatous Mixed Germ-Cell Tumor of Testis*. The Internet Journal of Surgery. 2008 Volume 19 Number 1.

Abstract

Testicular tumors can be classified as seminomatous and non-seminomatous germ-cell tumor (NSGCT) types. A mixed variety comprises 60 % of these tumors. Unfortunately, many of these patients present late, usually with some or the other complications which are difficult to treat and carry bad prognosis. Still, if they can complete the chemotherapy they have a reasonable survival period, depending on the complications they have. We report on a patient who represents this unusual mixed variety of NSGCT.

CASE HISTORY

A 29-year-old Hindu male presented with history of left-sided scrotal swelling since 1 year, backache since 6 months and weight loss since 6 months.

According to the patient, it was a left-sided painless swelling which had progressively increased in size to its present dimensions. There was heaviness in the left side of the scrotum. There was no skin involvement. Backache was present since 6 months, more on walking and on straining. There was weight loss of 17 kg over a period of 6 months. There was no history of trauma or fever.

ON CLINICAL EXAMINATION

The patient was averagely built and nourished. Vital parameters were stable. The abdomen was soft on palpation with no obvious organomegaly. The chest was clear on auscultation. On local examination, a left-sided scrotal swelling of 20x10x5cm was found. The scrotal skin was normal. No scar, sinuses or dilated veins were seen. On palpation, local temperature was normal and testicular sensations were absent on the left side. It was a painless, non tender, non transilluminant swelling with variegated consistency. Per-abdominal examination did not reveal any abnormality. Virchow's nodes were negative.

ON INVESTIGATING

Hemoglobin was 11.3 g%, TLC 11,400/cu mm, S. Bilirubin Total 1.9, S. Bilirubin Direct 1.1, SGOT 81, SGPT 160, S. Alk. Phosphatase 1073, S. Total Proteins 6.8, S. Albumin

3.6 and S. Creatinine 1.1.

USG of the abdomen showed para-aortic and retroperitoneal lymphnodes.

Chest x-Ray showed multiple bilateral hilar lymphadenopathy.

CT scan of the chest showed multiple lobulated, moderately enhancing mediastinal and hilar lymphnodes and a 3x1.8cm lesion in the posterior basal margin of the left lobe of the liver.

Tumor markers: Alpha-Fetoprotein (AFP) 1500mcg/ml, Beta-HCG 6533 IU/ml.

The patient underwent left-sided high orchidectomy.

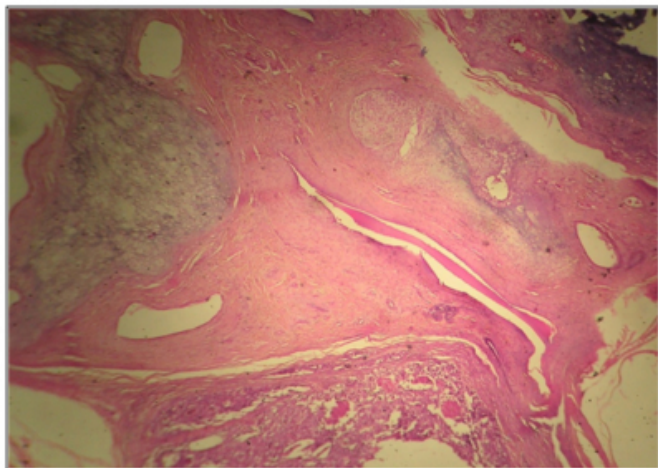
On gross pathological examination, there was a large, solitary, encapsulated tumor measuring 20x12x6cm. The testis was completely destroyed with prominent vascularity on the tumor surface. On cut section, the tumor had a grating feel. There were areas of hemorrhage and necrosis with yellowish discoloration.

Figure 1



Histopathology showed a mixed germ-cell tumor with predominant teratoma and yolk sac tumor and foci of choriocarcinoma.

Figure 2



The patient was given chemotherapy of the BEP regimen, i.e. Bleomycin, Etoposide, and Cisplatin. He showed good response after the 1st cycle. At the time of starting the second cycle, AFP had decreased to 117 IU/ml and by the time the 3rd cycle started, it had decreased to 14.4 IU/ml. However, after the 3rd cycle the patient was lost to follow-up and was not available for further management due to personal family problems.

Then, suddenly, when he came for follow-up after a gap of 3 months, he presented with complications of breathlessness, loose motions and loss of weight. Tumor markers were markedly raised, mainly AFP, and lung metastasis showed further extension on chest X-ray. After oncology evaluation, the patient was unfit for further chemotherapy. The poor

prognosis was explained to him and to his relatives. He was treated symptomatically. However, finally he succumbed to death after two months due to complications.

DISCUSSION

About 99% of neoplasms of the testis are malignant and they are one of the commonest forms of cancers in young adult males. The mystery remains unsolved as how such an easily accessible and superficially palpable tumor escapes detection till a very late stage of its presentation. About 60% of testicular tumors are composed of more than one of the pure patterns.

Approximately 60 % of the patients with NSGC tumors present with advanced clinical disease, i.e. metastasis through the lymphatic as well as hematogenous routes. It is the choriocarcinoma component which is the most aggressive as it spreads rapidly through the hematogenous route, thus leading to a poorer prognosis of these patients as compared to seminomas. NSGCT is a radio-resistant tumor.

Germ-cell tumors secrete polypeptide hormones like LDH, ADH, HCG, alk. Phosphatase, placental lactogen, etc., which are widely used clinically and have proven diagnostic and prognostic value.

Yolk sac tumors are most common in infants and children, accounting for 65% of the total germ-cell tumors. They are seen in 2.4% of adult patients, but the mixed histological variety is seen in 42% of patients. AFP is demonstrable in approximately 92% of yolk sac tumors. The prognosis is similar in children and adults.

More than 50% of germ-cell tumors include more than 2 basic germ-cell tumor types, with the exception of spermatocytic seminoma. Elevated levels of AFP are seen in tumors containing yolk sac elements. The pathology report should list all the histological types to enable correlation with serum tumor markers. Furthermore, the percentage of each cell type should be estimated, particularly of embryonal carcinoma.

With the exception of spermatocytic seminoma, germ-cell tumor types usually develop retroperitoneal lymph-node metastases. The metastasis usually reflects the histology of the basic primary tumor. Choriocarcinomas metastasize via blood stream to lungs and brain. However, different histologic cell types are found more often in metastases than in primary tumors. This may be due to maturation of one germ-cell type into another cell type. In rare cases, AFP may

not be demonstrable in a metastatic viable yolk sac tumor even though the primary tumor is positive for AFP.

The therapy and prognosis of these testicular tumors can depend largely on clinical stage and on histological type. Seminomas which are localised and show radiosensitivity have got the best prognosis. Among NSGCTs, the histologic subtype does not influence the prognosis significantly, hence they are treated as a group. About 90% of the patients with nonseminomatous tumors can achieve complete remission with aggressive chemotherapy and most of them can be cured.

SUMMARY

Thus, this is a classic case of an unusual combination of mixed germ-cell tumor of non-seminomatous type. Most important of all in this is completion of treatment and regular follow-up of the patient. Any break in the treatment can and will lead to flaring up of the complications and carries very poor prognosis. Our case had this unusual combination, which is not commonly reported in the literature.

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