



## PRIMARY TESTICULAR LYMPHOMAS; EXPERIENCE WITH SEVEN CASES FROM SINGLE INSTITUTE AND REVIEW OF LITERATURE

### Pathology

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### ABSTRACT

Involvement of the gonads by malignant lymphoma may be: 1) primary extra nodal disease 2) the initial manifestation of clinically occult nodal disease or a late complication of disseminated nodal lymphoma. Lymphomas initially present in the gonads are generally non-Hodgkin's lymphomas. We present a clinic-pathologic analysis of 7 patients with malignant lymphoma in testis. The study was conducted in the Department of Pathology Sher-i-Kashmir Institute of Medical Sciences. 83 cases of testicular malignancy were reviewed retrospectively. Seven of these cases were found to be primary testicular lymphomas. Median age was 60 (19-75). Microscopically all tumours were non hodgkins lymphoma. Diffuse Large B-cell Lymphoma is the most common primary testicular lymphoma (69-75%). The age at presentation is beyond the sixth decade of life. Primary testicular lymphoma is a rare disease and needs high index of suspicion for early diagnosis.

### KEYWORDS

Primary Testicular Lymphoma.

### INTRODUCTION

Involvement of the gonads by malignant lymphoma may be: 1) primary extra nodal disease(1,2,3,4,5,6,7,8); 2) the initial manifestation of clinically occult nodal disease (1,2,3,9,10, 11,12,13,14);or a late complication of disseminated nodal lymphoma(2,13,14,15). Lymphomas initially present in the gonads are generally non-Hodgkin's lymphomas. In most patients with lymphoma initially localized clinically to the gonad, generalized disease develops within a short time. It is likely that investigators consider most, if not all, testicular lymphomas secondary. Reports on patients who are cured by ablative surgery with or without local radiotherapy indicate that in rare instances malignant lymphoma is limited to the gonad. Primary testicular lymphomas constitute 1-2% of NHL ,4% of extra nodal NHL and of testicular neoplasms affecting elderly men greater than 60 years of age, with a grave prognosis.(16,17) The most frequent histology is Diffuse large B-cell lymphoma (DLBCL) and has a predilection for extra nodal sites, especially the contra lateral testis and central nervous system (CNS).(18,19) The incidence has increased over the last two decades with the emergence of human immune deficiency virus infection(20). We present a clinic-pathologic analysis of 7 patients with malignant lymphoma in testis as the only site of clinically evident disease.

### Materials and Methods

The study was conducted in the Department of Pathology Sher-i-Kashmir Institute of Medical Sciences. The research strategy was observational analytical. We retrospectively reviewed 83 cases of testicular malignancy. Seven of these cases were diagnosed as primary testicular lymphomas, confirmed by histopathology and Immunohistochemistry (IHC). The demographic details, clinical profile, treatment and outcome were recorded and analyzed. Gross and microscopic findings were thoroughly studied. Ann arbor staging was done and international prognostic score was also obtained.

**Inclusion criteria:** All cases of testicular lymphomas primarily presenting in testis were included.

**Exclusion criteria:** Cases with Secondary infiltration of testis by lymphoma/leukaemia cells were excluded.

The specimens were examined externally and then sectioned as per conventional method after overnight fixation by 10%formalin

### OBSERVATION

Out of 83, eight cases showed the presence of leukaemia /lymphoma cells. Among, these only one case was a known case of leukaemia who

had relapsed by presenting as testicular mass. Rest 7 cases had primarily presented as testicular mass without evidence of disease elsewhere. Median age was 60 (19-75) years Table I.

**Table - I. Profile of patients in our study.**

Age (Years)	Laterality	B-Symptoms	Abdominal Lymphadenopathy	LDH Levels	Ann Arbor stage	IPI SCORE	Tumour size (cm)	spermatoc cord involvement
19	Right	present	nil	normal	IE	I	4	PRESENT
30	Left	present	present	raised	IE	I	6	NIL
75	Left	absent	present	normal	IIIE	I	8	NIL
75	Right	absent	nil	normal	IE	I	8	NIL
71	Left	absent	nil	normal	IE	I	5	NIL
55	Right	absent	nil	normal	IE	O	7	NIL
60	Right	absent	nil	raised	IE	I	7	NIL

4 patients had right testicular involvement and 3 patients had left testis involvement, All presented primarily with testicular swelling, two had Type-B symptoms and two had abdominal lymphadenopathy. None had bone marrow or CNS involvement. On gross examination tumour size varied from 4-7 cm in greatest dimension.



Figure A and B: Orchidectomy specimen showing grey white mass replacing the whole testicular parenchyma.

Microscopically all tumours were non hodgkins lymphoma-six cases were Diffuse Large B cell type and one case could not be categorised further.

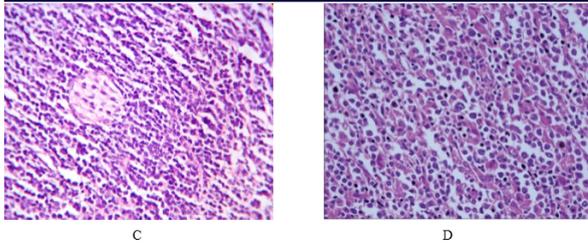


Figure C: Photomicrograph showing lymphoma cells infiltrating the whole testis. Relative sparing of seminiferous tubule can be seen in this section.

Figure D: Photomicrograph showing well defined individual cell morphology of the lymphoma cells.

Among six diffuse large cell type, 2 were of Immunoblastic variant. Vascular invasion was not seen in any of the cases. All cases were CD 20 positive. Chemotherapy was given in every patient. All patients showed complete remission till the day they were followed.

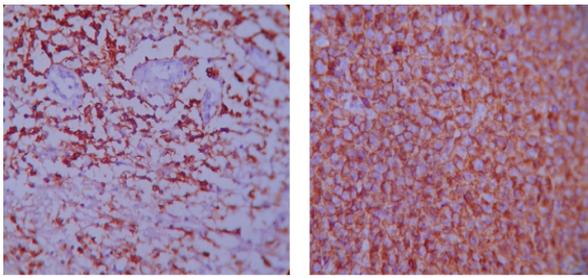


Figure F: CD45 staining of the lymphoma cells, Relative sparing of seminiferous tubules is noticed.

Figure G: CD 20 membrane staining of large lymphoma cells is seen.

## DISCUSSION

DLBCL is the most common primary testicular lymphoma and constitutes around 69-75% of Primary Testicular lymphoma.(17,19,21,22,23) The age at presentation is beyond the sixth decade of life. The median age in our study was 60 years which is at par with other Indian studies but earlier as compared to studies from other countries(19,21,24). Primary testicular lymphoma presents with insidious onset of unilateral painless enlargement of testis.30-40% may present with hydrocele and shooting pain due to epididymo-orchitis. There is propensity to involve the other testis which can be synchronous or metachronous. B symptoms may be present upto one third(19,22). All patients in our series presented with painless unilateral testicular enlargement and two had B symptoms. One patient had involvement of opposite testis and had presented several years prior to the period of present study. Two patients had hydrocele, two had retroperitoneal lymphadenopathy.

There is propensity for involvement of certain extranodal sites especially waldeyers ring, skin, lungs and CNS (18,19). No such involvement was seen in our study. Several variables have been reported as prognostic factors of primary testicular lymphoma. Age, B symptoms, performance status(PS), tumour size >9 cm, spermatic cord involvement, elevated LDH, histological grade, vascular invasion, CNS involvement, Ann Arbor stage and IPI score(16,22,25,26). In our study tumour size was less than 9cm in all cases. One case had spermatic cord involvement while LDH was raised in one case. Vascular invasion was not seen in any case. No patient had CNS or CSF involvement. IPI score was 1 in six cases and 0 in one case. All our patients were stage I which is similar to other studies.(16,27,28).

To conclude primary testicular lymphoma is a rare disease and needs high index of suspicion for early diagnosis. Most primary testicular lymphomas are seen in elderly and are of Diffuse large B cell type.

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