



## Increase in incidence of lymphoma or co-incidence

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### Abstract

**Aim:** To study the incidence of Orbital Lymphomas among the orbital Neoplasia.

**Materials and Methods:** This is a Prospective interventional study conducted at the department of Oculoplasty and Orbital diseases of Sarojini devi eye hospital. The study period was from January 2005 to December 2008. All cases of Orbital Lymphomas on clinical and radiological suspicion were included in the study. Informed consent was obtained from all cases. Patients who didn't give consent were excluded from the study. All cases were examined by an experienced Ophthalmologist using Slit lamp, Snellens chart, Direct and indirect Ophthalmoscope, Hertel's Exophthalmometer. Incisional biopsy done in all cases and Histopathological diagnosis was established. Immuno histochemistry was done to further narrow down the diagnosis. Cases were referred to medical oncologist for chemotherapy.

**Results:** Of 609 cases of Orbital neoplasia presented during the study period, 185 were of Orbital Lymphomas. 136 were males and 49 were females. Age distribution was from 40 years to 80 years. Maximum number of cases were seen in 6<sup>th</sup> and 7<sup>th</sup> decade. Among the four risk factors, the most common noted in this study was exposure to pesticides.

**Conclusions:** There is steady rise in the incidence of Lymphomas. Exposure to pesticides was most common risk factors for development of Lymphomas. Next common risk factor was exposure ammonia based hair dyes and colors. Third common risk factors was immuno compromised status ie HIV positive. Immuno suppression organ transplant cases or chronic diseases like Rheumatoid arthritis and Sarcoidosis was the least common risk factor in our study.

**Keywords:** lymphomas, hiv positive status, pesticides exposure

### Introduction

Incidence of Lymphomas is increasing worldwide <sup>[1]</sup>. Lymphomas can be nodal and extra nodal <sup>[2]</sup>. Orbital Lymphomas of Conjunctiva and Lacrimal gland are extra nodal but Lymphatics <sup>[3]</sup>. Whereas the Lymphomas of Lids and Orbit are both extra nodal and extra lymphatic <sup>[3]</sup>. The proposed risk factors are exposure to Pesticides, Exposure to Ammonia based hair colors and dyes, Use of Immuno suppressive drugs in Organ transplant patients and viral infections like HIV, E B virus, Hepatitis C <sup>[4]</sup>.

### Materials and Methods

This was a prospective interventional study conducted at the Department of Oculoplasty and Orbital diseases of Sarojini Devi eye hospital. The study period was between January 2005 to December 2008. All cases of Orbital Lymphomas suspected clinically and radiologically were included in the study. Proptosis with Salmon patch is considered as strong clinical suspicion of Lymphoma. Proptosis with skirting of tumor around the globe

without indenting it in axial cuts of CT scan is considered as Radiological suspicion. Informed consent was obtained from all patients. Those patients who didn't give consent were excluded from the study. All case were examined by an experienced Ophthalmologist using Slit lamp, Snellen's Chart, Direct and Indirect Ophthalmoscope, Hertel's Exophthalmometer. Incisional or excisional biopsy was done in all cases. Sample was send for histopathological diagnosis and Immuno histochemistry. All cases were referred to Medical Oncologist for Chemotherapy.

### Results

Out of 609 cases Orbital neoplasias 185 were having Lymphomas. 136 were males and 49 were females. Age distribution was from 40 years to 80 years. Maximum number of cases were seen in 6<sup>th</sup> and 7<sup>th</sup> decade. Males outnumbered the females. 115 cases had exposure to pesticides. 30 cases were exposed to hair dyes. 10 cases were HIV positive. 30 cases had no exposure to any risk factor.

**Table 1:** Showing year wise incidence of lymphoma

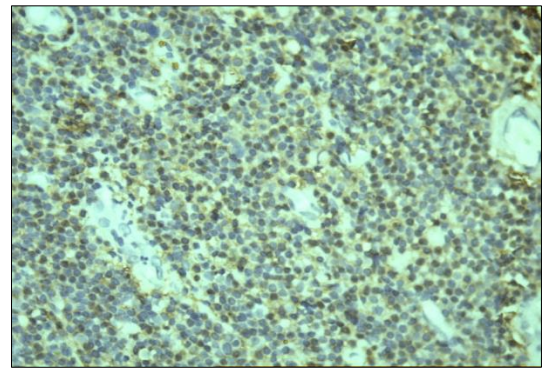
Year	No. of Orbital neoplasia	No. of lymphomas	Percentage
2005	123	17	14%
2006	136	27	20%
2007	145	51	35%
2008	205	90	44%

**Table 2:** showing age wise distribution of cases

Decade	No. of cases	Percentage
4 <sup>th</sup> Decade	16	8.6%
5 <sup>th</sup> Decade	23	12.4%
6 <sup>th</sup> Decade	88	47.5%
7 <sup>th</sup> Decade	49	26.5%
8 <sup>th</sup> Decade	9	4.9%

**Table 3:** Showing sex distribution of cases

Sex	No. of cases	Percentage
Males	136	73.5%
Females	49	26.5%



**Fig 3:** Immuno histochemistry of NHL

**Discussion**

Kenji Ohtsuka *et al* [5] studied 244 orbital tumors of which Lymphomas accounts for 59 cases (24.1%). This matches with present study in which we got 185 cases of lymphomas ie. 30.4% of 609 cases of orbital tumors.

Moslehi R *et al* [6] showed rapidly increasing incidence of Lymphomas every year. Maximum affecting people in seventies. This also matches with present study in which we got steady increase in incidence of Lymphoma from 2005 to 2008. Maximum number in present study showed to affect patient in 6<sup>th</sup> and 7<sup>th</sup> decade.

**Conclusion**

There is a steady rise in incidence of Lymphomas from 2005 to 2008. Exposure to pesticides was most common risk factors for development of Lymphomas. Next common risk factor was exposure ammonia based hair dyes and colors. Third common risk factors was immuno compromised status ie HIV positive. Immuno suppression for organ transplant cases or chronic diseases like Rheumatoid arthritis and Sarcoidosis was the least common risk factor in our study.



**Fig 4:** Axial cut of CT scan showing Skirting sign

**Financial Interest:** Nil

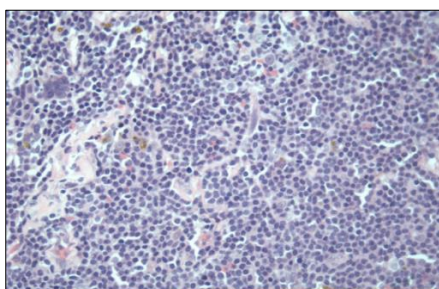
**Conflict of Interest:** Nil

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**Fig 1:** Salmon patch



**Fig 2:** Histopathology of Non-Hodgkin's Lymphoma