

## Incidence And Clinical Profile Of Head And Neck Malignant Tumours In Paediatric Age Group

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**Abstract:** Background: The aim of this study was to determine the most frequently presenting tumours exclusive to the head and neck within the paediatric population as there has been an overall increase in incidence of paediatric tumour. Methods: We analysed patients presenting to ENT OPD to identify the frequency and incidence rates of various tumours found exclusively in the head and neck, diagnosed between 1998 and 2007 in paediatric patients. It was a retrospective study done with a total of 50 patients. The tumour categories were based on those defined by the US Department of Health and Human Services National Cancer Institute (NCI). Results: A total of 1980 patients were diagnosed with head and neck malignancy out of which 50 patients were in the paediatric age group. The most prevalent head and neck cancers within the paediatric population was Hodgkin's lymphoma followed by nasopharyngeal neoplasms and most common age group was 13-17 years. Conclusions: Hodgkins lymphoma followed by Nasopharyngeal tumours were the most commonly seen head and neck tumours overall among paediatric patients between 1998 and 2007. Most commonly seen between 13 to 17 years of age in males. Malignancy should be considered as a differential diagnosis in masses in head and neck region. [Prajapati V Natl J Integr Res Med, 2019; 10(4):31-33]

**Key Words:** Clinical Profile, Head and Neck Neoplasms, Paediatric

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**Introduction:** Head and neck is a fascinating area of the body as its regional anatomy and physiology are uniquely complex and the basic function of seeing, speaking, swallowing, hearing and smelling depends on symphony of parts working together. Malignant tumours of head and neck in paediatric age group presents as a challenge as head and neck masses can be congenital, inflammatory also Thus no wonder any malignancy in this region is a very complex problem and in developed country as USA cancer is the second leading cause of death in paediatric population and head and neck tumours are approximately 5 % of all reported paediatric tumours<sup>1</sup>.

The goal of any head and neck oncologist is to maximise the chance for cure while maintaining a strong emphasis of the individuals quality of life.

Curing the cancer at any cost is no longer an accepted strategy ,and the concept of returning the patient to society ,cured but incapacitated ,should be sternly challenged. Several features such as lack of health consciousness ,low socio economic class, illiteracy and inadequate facility offering comprehensive care can be the reason for the delay.

The present study is based on review of clinical profile and incidence of head and neck malignant tumours in paediatric patients.

**Aims and Objectives :** To study incidence of age associated with malignant tumours of head and neck in paediatric patients. To study the incidence of sex associated with malignant tumours of head and neck in paediatric patients. To study common site of malignant tumours.

**Materials and Methods:** Retrospective study was performed for 50 patients which was conducted over a period of 10 years from January 1998 to January 2007 in patients presenting to ENT OPD ,Government hospital, Gujarat. Inclusion Criteria: Paediatric and adolescent patients with newly diagnosed lymphoma, leukemia ,sarcoma, nasopharyngeal carcinoma, neuroblastoma and salivary gland tumours were included . Data was collected using a structures questionnaire. The Data covered background information about the participant and a detailed history regarding chief complaints symptoms, past ,family and personal history. Basic general and systemic examination was done . Routine blood investigations, FNAC/ biopsy and radiological examination according to site of tumour was done and surgery was planned according to above mentioned details.

**Results :** Head and neck malignancy is the sixth most common cancer world wide and as rich lymphatic drainage in this region these tumours show significant incidence of metastasis. The head and neck region is the primary site on about 5 % of cancer ,more than half occur in neck and

others are in nasopharynx, middle ear/mastoid, hypopharynx, nasal cavity, para nasal sinus and oral cavity. Malignancy is relatively rare in childhood.

**Table 1 showing Incidence of total malignant tumours and head and neck malignant tumours presenting to our OPD.**

YEAR	Total Number Of Malignant Tumours	No Of Head And Neck Malignant Tumour	PERCENTAGE (%)
1998	720	200	27.7
1999	670	210	31.3
2000	749	105	14.01
2001	674	190	28.1
2002	750	225	30
2003	790	200	25.3
2004	823	250	30.3
2005	720	200	27.7
2006	820	220	26.8
2007	626	180	28.7

Incidence of head and neck malignant tumours in adult was during 1980 was 97.4% vs paediatric population incidence was 2.6% only. Out of 384 Malignant tumor in paediatric age group only 13% (50 cases) were of Head And Neck Tumour. Age wise distribution shown in table 2.

**Table 2: showing Incidence of head and neck malignant tumours among various age group divided gender wise**

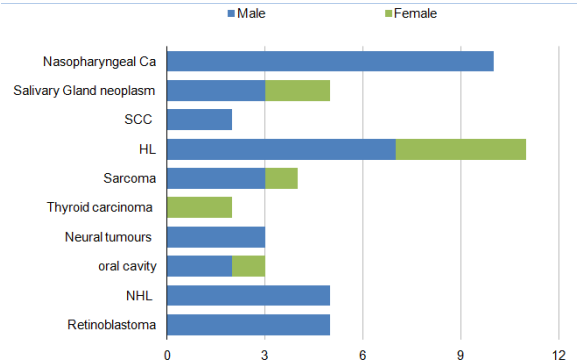
Age In Years	Male	Female	Total	%
0-5	11	-	11	22
6-12	14	-	14	28
13-17	15	10	25	50

Age and gender distribution was also noted Neural , soft tissue tumours ,retinoblastoma were more commonly seen in age group of 0-5 years whereas nasopharyngeal tumour was seen commonly between 13-17 years.Hodgkins lymphoma and NHL had distribution between 6-12 years and 13-17 years of age.(Figure1)

Among gender distribution most commonly males were affected especially in the age group of 0-5 and 6-12 years were no female incidence

was seen.In age group of 13-17 years males were more affected than females.Nasopharyngeal tumours was most common tumour seen in males whereas lymphoma was most commonly seen in females in this group.

**Figure 1: Showing chart depicting distribution of different head and neck cancers.**



Nasopharyngeal tumour,Squamous cell carcinoma(hypopharynx),Neural tumours ,NHL and retinoblastoma was seen exclusively in males in our study.Thyroid carcinoma though was only seen in females.All other cases like salivary gland neoplasm (adenoidcystic Ca of parotid),Hodgkins lymphoma,Ca oral cavity, sarcoma (rhabdomyosarcoma)had distribution in males and females.

**Discussion:** Head and neck tumours account for 5% of all childhood cancers<sup>2,3</sup>. According to Albright et al., the increase in the incidence of head and neck tumours among children younger than 15 years has exceeded the overall rise in all cancers for this specific age group<sup>4</sup>. Epidemiological studies have shown that inheritable types of cancer form only a minor portion of childhood tumours. The increase in incidence suggests that environmental causes may play a significant role<sup>4</sup>. However, previous studies had inconsistencies in defining paediatric head and neck tumours<sup>4</sup>, particularly with the inclusion and exclusion criteria used. Some of these studies have included histological categories not exclusive to the head and neck, such as lymphomas as a part of the head and neck tumours, which in turn increased the overall

**Incidence rates of these tumours:** From 1998 to 2007, the total number of malignant head and neck tumours were 1980 among which 50 cases were of paediatric head and neck tumours and among 384 paediatric patients affected by

malignancy 50 cases were affected with head and neck malignancy which was 13 % which was similar to the study of Albright et al(4) but lower than study observed by Sutow (27%)<sup>5</sup>.

The 5 highest incidence rates of carcinomas of the head and neck region according to our study were : Hodgkins lymphoma, Nasopharynx, Salivary gland neoplasm, Non Hodgkins lymphoma, Retinoblastoma. Which was similar to the study of Sengupta et al<sup>3</sup> which had lymphoma as the most common followed by rhabdomyosarcoma and then nasopharyngeal carcinoma. Global literature delineates common paediatric head and neck tumours as lymphoma (59%), rhabdomyosarcoma (13%), thyroid (10%), nasopharyngeal carcinoma (5%), neuroblastoma (5%), non-rhabdomyosarcoma soft-tissue sarcoma (4.5%), salivary gland malignancies (2.5%), and malignant teratomas (1%)<sup>6</sup>.

In our study the most common affected age group was between 13-17 years of age (50%) followed by 6-12 years of age (28%) which was comparable to the study of Albright et al which showed most common affected age group as 15-18 years old(39%)<sup>4</sup>. In our study males were most commonly affected (80%) as compared to the study of Sengupta et al which showed higher male predominance.<sup>7</sup>

**Conclusion:** Incidence of paediatric head and neck tumours are very rare and thus there is a need to study these tumours carefully as in the paediatric age group only tumour excision is not the solution making the patient live a normal life is far more important. Among malignant lesion lymphoma is more common and commonest age of presentation is between 13-17 years male being more affected followed by nasopharyngeal tumour. Awareness of a potential malignancy and careful follow-up of children with suspicious head and neck cancers is mandatory so that more and more head and neck cancers in children are brought to treatment before it is too late.

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Conflict of interest: None
Funding: None
Cite this Article as: Prajapati V, Roza H, Rai S. Incidence And Clinical Profile Of Head And Neck Malignant Tumours In Paediatric Age Group. <i>Natl J Integr Res Med</i> 2019; Vol.10(4): 31-33