

SPECTRUM OF BENIGN CHILDHOOD TUMORS: A FIVE YEARS EXPERIENCE

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ABSTRACT

Pediatric tumors constitute one of the most important groups of tumors and they differ markedly from adult tumors in their nature, distribution and prognosis. Since these tumors are on rise all over the world, retrospective study over 5 years was conducted to analyse their pattern and distribution in our institution. A total of 62 benign tumors in pediatric age group were received for histopathology during this period which accounted for 0.5 % of the total specimens. Adolescent age group (12- 18 years) was most commonly affected with female preponderance (69.35%). Among benign tumors, hemangiomas were most common accounting for 32.25% followed by fibroadenomas (29.03%).

KEYWORDS: Pediatric Age Group, Pediatric tumors.

INTRODUCTION

Pediatric tumors constitute one of the most important groups of tumors and they differ markedly from adult tumors in their nature, distribution and prognosis. Incidence of paediatric tumours is on rise all over the world. As eighty eight percent of world's children live in developing countries, these tumors form an important cause of concern in these countries also. Appropriate management of pediatric tumors requires complete epidemiological data of pediatric tumors in different geographical areas and hospital registries are the only available source of information for assessing the disease pattern in community. This study was conducted to find out the profile of benign pediatric tumors in our institution.

Materials and Methods

This is retrospective study conducted in the department of pathology over a period of 5 years. Relevant available data of age, sex, site and type of tumors were obtained from request forms. Slides and blocks were retrieved and reviewed. Tumors were categorised according to WHO classification. Pediatric specimens from birth upto 18 years were stratified into 6 age groups according to National Institute of Child Health and Development (NICHD) pediatric terminology and Indian Academy of Pediatrics. Benign tumors diagnosed histopathologically

were included whereas premalignant lesions and malignant tumors were excluded from the study.

RESULTS

A total of 62 specimens of benign tumors in pediatric age group were received in the histopathology department during the study period. This accounted for 0.5% of total biopsies.

The age range of these patients varied from 3months to 18 years

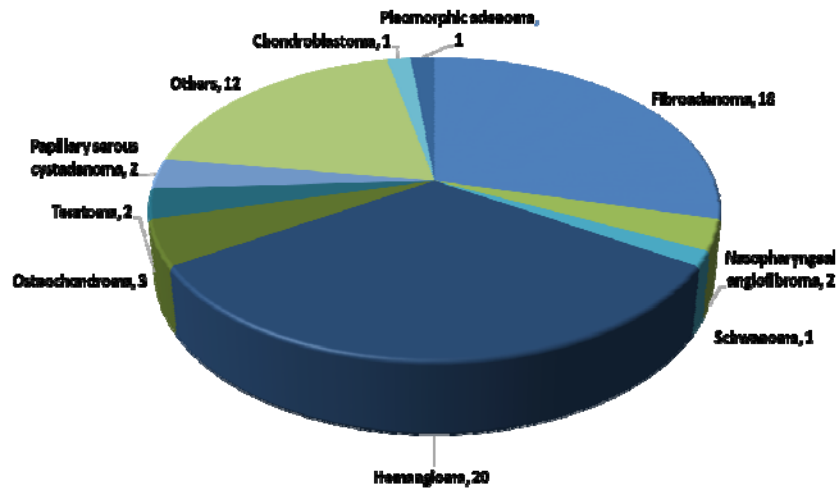
and were divided into 6 age groups according to National institute of child health and development (NICHD) pediatric terminology. The first group was from birth to 27 days, second group from 28days to 12 months(Infancy), third group from 13months to 2 years(toddlers), fourth group from 2-5years(early childhood), fifth group from 6-11 years(middle childhood) and sixth group from 12-18 years (Adolescence). Most of the pediatric tumors were found in adolescent age group [39 cases(62.9%)] followed by middle childhood [13 cases(20.96%)] but no tumors were encountered in neonatal age group. Females [43 cases(69.35%)] were affected more commonly than males [19 cases(30.64%)] with female to male ratio of 2.3:1 [Table 1].

Table 1: Age and sex distribution of benign pediatric tumors

Age Group	Males	Females	Total
Birth – 27 days(Neonate)	0	0	0(0%)
28days – 12 months(Infancy)	2	3	5(8.06%)
13months – 2 years(Toddler)	1	1	2(3.22%)
2 – 5 years (Early childhood)	1	2	3(4.83%)
6 – 11 years(Middle childhood)	7	6	13(20.96%)
12 – 18 years(Adolescence)	8	31	39(62.9%)
Total	19	43	62 (80.59%)

When overall pediatric tumors were evaluated over 5 years, it was observed that benign pediatric tumors were more common accounting for 80.5% when compared to malignant tumors 19.5%.

Fig 1: Spectrum of 62 Benign Pediatric Tumors



Among the benign tumors, hemangiomas were commonest accounting for 20 cases (32.25%) followed by fibroadenoma [18 cases (29.03%)]. There were 3 cases (4.83%) each of lymphangioma and osteochondromas, 2 cases (3.22%) each of teratoma, papillary serous cystadenoma, nasopharyngeal angiofibroma, bone cysts and verruca vulgaris, 1 case (1.61%) each of schwannoma, chondroblastoma, pleomorphic adenoma, fibrous dysplasia, intramuscular angioma, fibrolipoma, leiomyoma and fibrocystic disease.

Discussion

Pediatric tumors are relatively uncommon. To our knowledge, no significant data on the study of overall pediatric benign tumors is available so benign tumors are separately discussed and compared with other studies. In the present study benign pediatric tumors were more common (80.50%) than malignant tumors, commonest being hemangiomas. Hemangiomas constituted 20 cases (32.25%) which is higher compared to study done by Kransdorf et al (11.64%).⁵ Fibroadenoma formed second most common benign tumors accounting for 18 cases (29.03%) and it was the most common tumor among breast lesions encountered in the pediatric age group (89.40%), a figure consistent with 84.40% documented by Samir et al in his study.⁶ Further Bafakeer et al and Godwin et al., also documented 76.74% and 72.40% in their studies respectively.^{7,8}

Benign ovarian tumors were fairly common than malignant ovarian tumors in the current study. Similar finding was seen in Bhattacharya et al study.⁹ Further most of the ovarian

tumors were seen in the age group of 16-20 years (62.5%) followed by 11-15 years age group (25%) which was also similar to study done by Bhattacharya et al⁹.

Kransdorf et al observed that schwannoma constituted only 1.15% of benign tumors in his study which was similar to the present study (1.61%).⁵

Conclusion

Pediatric tumors are a special entity with various genetic, environmental factors playing a role in their causation. Their growth potential and response is also different from those of adult tumors. In the present study benign tumors were more common compared to malignant tumors, hemangioma being predominant type of benign tumor. Pediatric tumors are not uncommon so there is a need of awareness of these tumors among general pathologists in spite of pediatric oncology emerging as a super speciality.

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