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Pattern of Childhood malignant tumours in Umuahia South East Nigeria

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Abstract

Introduction: Cancers in children should be incorporated as one of the childhood killer diseases in developing countries.
Aim: The aim of this study is to evaluate the demographic and pathologic characteristics of childhood tumours in Umuahia. South East Nigeria
Methodology: The Operative records, histology request and report forms were studied and the clinico-pathologic information were retrieved and analysed using SPSS version 20.0
Results: A total of 50 cases of malignant diseases of children were clinically diagnosed and histologically confirmed. The mean age of the patients were 8 years with age range of 1 to 17 years. The male to female ratio was 1:1. The peak age of incidence falls in the 1-5 age groups which accounted for 40%. Wilm's tumour was the commonest 25, Rhabdomyosarcoma 10 cases, Neuroblastoma 5cases, Oesteosarcoma 5cases, Teratomas 5 cases.
Conclusion: childhood cancer is increasing in our environment. However, late presentation, ignorance, poverty leads to poor outcome.

Keywords: Tumours, childhood, Umuahia

Introduction

Childhood cancer is a small fraction of the global cancer burden, yet for children with cancer and their families, it can be deeply distressing.[1] There are a wide variation in the incidence of childhood tumours world- wide.[2] The low prevalence of paediatric malignancies in many Sub-Saharan African countries is due to large number of cases that are never seen by a physician. Low index of suspicion and poor diagnostic facilities also contribute to low reported prevalence, late diagnosis and poor survival rates of certain types of childhood cancers.[1-3]

The relative incidence of childhood tumours in developing countries is increasing and might add significantly to the high childhood morbidity and mortality caused by infectious diseases.[3] This is especially so in low income countries, where childhood cancers are often detected often too late for effective treatment and where appropriate treatment is either not available or affordable.[2-3] Childhood malignant neoplasms account for about 2% of all cancers, yet they are the second commonest cause of death in children aged 5-14 in populations where overall mortality is low.[3]

The aim of this study is to evaluate the demographic and pathologic characteristics of childhood tumours in Umuahia South East Nigeria.

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Methodology

This is a retrospective study of childhood malignant neoplasm operated upon and histologically confirmed in the Paediatric Surgery Unit, Department of Surgery, Federal Medical Centre Umuahia, South East Nigeria between January, 2011 and December 2020 (Ten years). Umuahia

consists of two Local Government Areas including Umuahia North, and Umuahia South. It has an estimated population of about 816,983 as of 2021.[5] The operative records, histology request and report forms were studied and the clinico-pathologic information were retrieved. The data was analysed using SPSS version 20.0 and presented.

Results

A total of 50 cases of malignant diseases of children were diagnosed and histologically confirmed. The mean age of the patients was 10 years with age range of 1 to 17 years. There was a male to female ratio of 1:1. The peak age of incidence was in the 1-5 age groups which accounted for 40.74% followed by 6-10, 11-15 and 16-17 years age groups that constituted 18.52% respectively. The commonest malignancy was Wilm's tumour which constituted 50% (25 cases) of all the childhood tumour's in the period under review. The average age was 3 years and age range of 1 to 11 years. The male to female ratio was 1:1.7.

Rhabdomyosarcoma was the second most common neoplasm. There were 10 cases (20%) of this malignancy. The mean age of the patients were 5 years, age range of 2 to 10 years and a peak in the 6-8 years age groups. Neuroblastoma constituted 10% (5 cases). The mean age was 3 years with age range of 2- 12 years and peak at the 6-10 years age groups. Moreover, Osteogenic sarcoma contributed 10% (5 cases) of all childhood tumours in this study with a mean age of 8 years, peak age in the 6-10 years age groups and age range of 7 to 15 years. Teratoma was 10% (5 cases).

Table 1: The relative frequency of all the tumours

Type	Frequency	Percent
Wilm's tumour	25	50
Rhabdomyosarcoma	10	20
Neuroblastoma	5	10
Osteogenic sarcoma	5	10
Teratoma	5	10
Total	50	100

Discussion

The pattern of childhood malignant solid neoplasms seen in this study compared favourably well with results from Nigeria and other African countries. A total of 50 cases of malignant childhood tumours were histologically confirmed in the period under review. There was equal female to male ratio in this study. This observation is unique as most studies reported a predilection for males.[6-9] However, the age range was similar to the findings in previous studies.[5] This study demonstrated that the peak age of incidence was in the 1-5 age groups which accounted for 40% followed by 6-10, 11-15 and 16-17 years age groups that constituted 18.52% respectively. This observation agreed with reports from Ilorin and Uyo.[3,8] The commonest malignancy in this study was Wilm's tumour. The male to female ratio was 1:1. Soyemi et al.[12] reported that it was the commonest childhood malignancy in Lagos. Several reports also indicated that it is the commonest intra-abdominal tumour of childhood in sub-Saharan Africa.[11-13] Ekenze et al in Enugu south East Nigeria[13] reported that the male to female ratio for Wilm's tumour was 1.1:1 with peak age of incidence in the 2-5 years age groups. Most previous studies demonstrated that Wilm's tumour affect children in the first five years of life with predominantly male predilection.

Rhabdomyosarcoma is said to be the commonest soft-tissue sarcoma of childhood worldwide.[14] Rhabdomyosarcoma was the second most common neoplasm in this study constituting 20% (10 cases). The mean age of the patients were 5 years and age range of 2 to 10 years. All the patients were males. These findings is in agreement with other studies.[15-18]

Neuroblastoma is the most common solid abdominal tumour in children under the age of 2 years and accounts for approximately 15% of childhood mortality due to cancer. Its clinical behaviour can vary from spontaneous regression to rapid fatal progression.[19] Neuroblastoma constituted 10% (5 cases) in this study. The mean age was 3 years with age range of 2-12 years and peak in the 6-10 years age groups. The findings is similar to other studies in Sub-Saharan Africa.[19,20]

Osteosarcoma is the eighth common cancer of childhood and its incidence is 4 cases in a million of children younger than 14 years. Osteogenic sarcoma contributed (5 cases)10% of all childhood tumours in this study with a mean age of 8 years, peak age in the 6-10 years age groups. All the patients were females. However, Omololu et al[21] reported that osteosarcoma has a male to female ratio of 1.6:1 in Ibadan with a peak age of incidence in the 10-19 age groups. The extremeties were most affected followed by the mandibles. Five cases (10%) of teratoma were observed. Similarly,

Soyemi et al[12] reported that ovarian yolk sac tumour constituted 5% of childhood malignant neoplasm in Lagos.

Conclusion

Childhood cancer is increasing in our environment. However, late presentation, ignorance, and poverty leads to poor outcome. Health funding, health education, training and insurance will improve outcome.

References

1. Uchendu, O. J. Nnadi G.I, Egejuru R.O. Childhood malignant tumours in owerri; a histopathological review nt. J of Forensic Med Invest 2016 ;2 . 2
2. Merenu IA, Diwe KC, Uwakwe KA, Duru CB, Iwu AC, Emerole CO et al. The prevalence and demographic pattern of childhood malignancies amongst patients in Imo State University Teaching Hospital, Nigeria 2007 – 2014. Int. J. Med. Med. Sci. 2016; 1 (3): 29-33
3. Omotayo JA, Duduyemi BM, Buhari MO, Anjorin AS. Histopathological Pattern of Childhood Solid Tumours in Ilorin: A 28-Year Retrospective Review. AJMSM. 2013; 1 (6):105- 109.
4. Paraic R. Childhood cancer: Rising to the challenge. UICC. 2006; 5:5-43
5. Population Division, World Urbanisation prospects 2021. Population.un.org.
6. Agboola AOJ, Adekanmbi FA, Musa AA, Sotimehin AS, Deji-Agboola AM, Shonubi AMO et al. Pattern of childhood malignant tumours in a teaching hospital in south-western Nigeria. MJA. 2009; 190: 12–14.
7. Shehu UA, Adegoke SA, Abdulsalam U, Ibrahim M, Oyelami OA, Adeodu OO. Pattern of childhood malignant tumors in two tertiary teaching hospitals in Nigeria: comparative study. Niger J Paed. 2013; 40 (2): 175 - 178.
8. Eno-Obong EU, Enobong EI. Childhood Cancers in a Referral Hospital in South-south Nigeria: A Review of the Spectrum and Outcome of Treatment. Pan Afr Med J. 2015;22:325
9. Mohammed A, Aliyu HO. Childhood Cancers in a Referral Hospital in Northern Nigeria. Indian J Med Paediatr Oncol. 2009; 30(3): 95–98.
10. Onwasigwe CN, Aniebue PN, Ndu AC. Spectrum of Pediatric Malignancies in Eastern Nigeria (1989-1998). West Afr J Med. 2002; 21(1):31-3.
11. Akhiwu WO , Igbe AP, Aligbe JU, Eze GI, Akang EE. Malignant Childhood Solid Tumours in Benin City, Nigeria. WAJM. 2009; 28(4):222- 226
12. Soyemi SS, Osuoji RI, Obafunwa JO, Oyewoe OO, Sanni AD, Emiogun FE. The Spectrum of Solid Childhood Malignant Tumors in a Tertiary Health Care Institution. World J Epidemiol Cancer Prevention. 2014; 3(6):47–50.
13. Ekenze SO, Agugua-Obianyo NEN, Odetunde OA. The challenge of nephroblastoma in a developing country. Ann Oncol. 2006; 17 (10): 1598-1600.
14. Hicks BA, Hensle TW, Burbige KA, Altman RP. Bladder Management in Children with Genital Sarcoma. J Paediat Surg. 1993; 28:1019-1022
15. Seleye-Fubara D, Etebu EN. Juvenile Rhabdomyosarcoma; A twelve year review. WAJM. 2006;25(1):57-60
16. Dauda M A, Yakubu D, Mandong BM, Ojo EO. Sarcomas in Nigerian Children in Jos, North Central Nigeria. Afr J Med Med Sci. 2014; 43(Suppl 1): 37–44.
17. Brown BJ, Oluwasola AO. Childhood Rhabdomyosarcoma in Ibadan, Nigeria: 1984-2003. Ann Trop Paediatr. 2006; 26(4):349-55.
18. Abdullahi M, Amutta SB, Iseh KR, Aliyu D, Yikawe SS, Abdullahi K. Pediatric Rhabdomyosarcoma of the ear and temporal bone: An analysis of seven cases in Sokoto, Nigeria. Indian J Otol 2016;22:40-3.
19. Kim S, Chung DH. Pediatric solid malignancies: Neuroblastoma and wilms tumor. Surg Clin North Am. 2006; 86:469–87. 13. Lowe RE, Cohen MD. Computed tomographic evaluation of Wilm's tumour and neuroblastoma. Radiographics. 1984; 4:915–
20. Farhangi H, Farzadnia M, Alamdaran A. Childhood Facial Osteosarcoma: A Case Report. Arch Bone Jt Surg. 2015; 3(2): 141–143.
21. Omololu AB, Ogunbiyi JO, Ogunlade SO, Alonge TO, Adebisi A, Akang EE. Primary Malignant Bone Tumour in a Tropical Teaching Hospital. WAJM. 2002;21 (4): 291-3.