

Original Research Article

VASCULAR TUMOURS AT FEDERAL MEDICAL CENTER MAKURDI AND BENUE STATE UNIVERSITY TEACHING HOSPITAL

ABSTRACT

Aim: To determine the prevalence of vascular tumours, and their morphology at Federal Medical Centre and Benue State University Teaching Hospital Makurdi.

Study Design: Retrospective study of vascular tumours at the two tertiary healthcare institutions.

Methodology: All the cases of vascular tumours seen, histologically diagnosed and managed between March 2012 and February 2017 at the two hospitals were studied. Data collected from the patient's files included age, sex, anatomical site, and the histopathological diagnosis.

Result: Fifty nine patients with vascular tumours that were histologically diagnosed during the 5 year period were studied. There were 23 (39%) males and 36 (61%) females giving a male female ratio of 1:1:6. The age range 21 – 30 years was mostly affected by various types of vascular tumours. Benign tumours were the commonest and occurred in 36 (61%) patients. Border line tumours constituted 21 (35.6%) cases. Malignant tumours were 2 (3.4%) in numbers. Most of the tumours 36 (61%) occurred in the head and neck region.

Conclusion: Benign tumours are still the commonest vascular tumours. HIV Aids pandemic is increasing the number of cases of Kaposi sarcoma a border line tumour. There is need for more research to improve on the prevention and treatment of the Kaposi disease.

Keywords: *Angiosarcoma, classification, haemangioma, Kaposi sarcoma, thrombocytopenia*

Introduction

Vascular tumours are classified into benign, locally aggressive or borderline and malignant.^[1,2,3] Prototype of the benign tumors are haemangiomas, those of borderline are Kaposi's sarcoma and malignant ones are angiosarcomas. Majority of the lesions are benign. The tumors arise from the endothelium of the blood vessels, lymphatic vessels and specialized perivascular cells comprising the glomus cells and pericytes.

Researches on vascular tumours have been done in other parts of the world and Nigeria and their prevalences documented. The characterization of the tumours has been difficult and confusing and this explains why as more is known about them, the classification continues to be improved

upon as well as the management. The recently reviewed “International Society for the Study of Vascular Anomalies (ISSVA)” classification in which vascular tumours are included is shown in table 1.

Table 1: International Society for the Study of Vascular Anomalies Classification of Vascular Tumours (Approved at the 20th ISSVA Workshop, Melbourne, April 2014)

Benign Vascular Tumors

- Infantile hemangioma/hemangioma of infancy
- Congenital hemangioma:
 - Rapidly involuting (RICH)
 - Non-involuting (NICH)
 - Partially involuting (PICH)
- Tufted angioma
- Spindle-cell hemangioma
- Epithelioid hemangioma
- Pyogenic granuloma (aka lobular capillary hemangioma)
- Others:
 - Venous malformations/lymphatic venous malformation
 - Lymphatic malformations,
 - Reactive proliferative vascular lesions

Locally Aggressive or Borderline Vascular Tumors:

- Kaposiform hemangioendothelioma,
- Retiform hemangioendothelioma,
- Papillary intralymphatic angioendothelioma (PILA), Dabska tumor
- Composite hemangioendothelioma
- Kaposi sarcoma
- Others

Malignant Vascular Tumors

- Angiosarcoma,

- Epitheloid hemangioendothelioma
- others.

Vascular anomalies present in varying forms with associated complexes like PHACE syndrome in infantile hemangioma and thrombocytopenia/kasabach-merritt syndrome in tufted angioma and kaposiform hemangioendothelioma with severe sometimes fatal bleeding from coagulopathy. PHACE syndrome comprises posterior fossa abnormalities, hemangioma, arterial cardiac and eye anomalies. New lesions are intermittently being recognized, characterized and added appropriately to the classification. The diagnosis and treatment of vascular tumors varies. Most are diagnosed based on the symptoms and physical examination. Ultra sound scan helps in identifying the masses and where in doubt CT scan to diagnose high flow vascular malformations can be done.^[4] Magnetic resonance imaging and contrast enhanced imaging are used for diagnosis of vascular malformations.^[4,5] Diagnosis is confirmed with histopathological slides.

The study is aimed at reviewing the histopathological types, site, age, sex, behavior of vascular tumors and their management in the two tertiary hospitals.

Materials and Methods

This was a retrospective study of all the cases of vascular tumours seen, histologically diagnosed and managed between March 2012 and February 2017 at Federal Medical Centre and Benue State University Teaching Hospital. The data was extracted from the patient's files and included age, sex, anatomical site, and the histopathological diagnosis. The tumours were classified as benign, borderline and malignant based on International Society for the Study of Vascular Anomalies guidelines.

Data Analysis

Data was analyzed using simple ratios and means presented with tables. SPSS version 23.0 was the statistical tool used. $P=0.05$ was considered statistically significant.

RESULTS

Total number of histology done at the two hospitals during the study period was 5,548. Fifty nine patients were histologically diagnosed with vascular tumours out of this number. Vascular tumours thus represented 1.1% of all lesions. Soft tissue tumours diagnosed in the two hospitals during the study period were 1616. Vascular tumours prevalence among soft tissue tumours was

3.7%. There were 23 (39%) males and 36 (61%) females giving a male female ratio of 1:1:6 (Table 2).

Table 2: Gender and Age Range Distribution of Vascular Tumours

Sex	Frequency	Percentage
Male	23	39.0
Female	36	61.0
Total	59	100.0
Age Range	Frequency	Percentage
1 – 10	7	11.9
11 – 20	11	18.6
21 – 30	13	22.0
31 – 40	12	20.3
41 – 50	9	15.3
51 – 60	5	8.5
61 – 70	2	3.4
Total	59	100.0

The ages of the patients range from two months to sixty five years with mean age of 30.4 ± 16.1 years

The age distribution of the tumours showed that thirteen (22%) patients in the age range 21 – 30 years were affected by various types of vascular tumours.

Benign tumours were 36 (61.0%), borderline 21 (35.6%) and malignant 2 (3.4%). Based on the histopathological type of tumour, Kaposi sarcoma constituted 20 (33.9%) cases closely followed by haemangioma with 18 (30.5%) cases. The anatomical distribution of vascular tumours showed that 36 (61.0%) occurred in the head and neck region (Table 3).

Table 3: Type of Tumours and Anatomical Location

Histopathological Type	Head/Neck	Trunk	Limb	Total	Percentage
Benign					
Haemangioma	13	4	1	18	30.5
Pyogenic Granuloma	16	-	-	16	27.1
Lymphangiomas	2	-	-	2	3.4
Borderline					
Kaposi Sarcoma	3	1	16	20	33.9
Kaposiform haemangioendothelioma	-	-	1	1	1.7
Malignant					
Angiosarcoma	2	-	-	2	3.4
Total	36	5	18	59	100

DISCUSSION

Our study has shown that benign tumours were the commonest vascular tumours seen at Federal Medical Centre and Benue State University Teaching Hospital, and haemangioma ranked first among them. Other studies have documented haemangioma as the commonest vascular tumour also.^[4,5] Wójcicki in his study documented a 87.7% occurrence of infantile haemangioma of the soft tissues with lesions occurring in the liver and respiratory track that had to be diagnosed with CT and magnetic resonance imaging in some of the patients.^[5] Dubois demonstrated haemangiomas as the commonest tumours occurring in children in his study.^[4] Kaposi sarcoma was the commonest borderline tumour among the vascular tumours in our study. Of the 20 patients with Kaposi, eight (40%) were HIV positive. Total HIV load in the two hospitals during the study period was 2386 patients. Kaposi's sarcoma prevalence in HIV patients in the two hospitals was 0.3%. Several studies have documented an increase of new, unusual presentations of Kaposi sarcoma which hitherto was endemic and not aggressive.^[6,7,8,9] But with the HIV pandemic, unusual aggressive forms of Kaposi sarcoma have emerged associated with rapid mortality and the number of cases have been increasing. In our study too these unusual presentations were noticed in the Aids Associated Kaposi Sarcoma patients usually with florid generalized lesions worse in the lower limbs, and this have been collaborated by Kagu in Maiduguri.^[10] Constitutional symptoms of weight loss, respiratory distress and GIT symptoms were seen in our patients and this has also been documented by other authors.^[6] We did not have any child with Kaposi sarcoma in our study, and National Cancer Institute has collaborated this statistic that its rare in children.^[11] This is a positive development and is probably due to the prevention of mother to child transmission of HIV which the federal government of Nigeria through the federal ministry of health is doing ensuring that all pregnant mothers compulsorily have HIV screening at the ante-natal clinic and if positive are commenced on free antiretroviral therapy. Some studies have documented children with HIV induced Kaposi sarcoma in Nigeria.^[9] We had only one mortality (1.7%) from vascular tumour in our study and it was due to Kaposi sarcoma. Some patients were lost to follow-up. Other authors have documented very high mortalities in their studies. Ahmad had a mortality of five out of fourteen (35.7%) patients while Bayley had a mortality of eight out of thirteen (61.5%) patients in Zambia.^[6,9]

Our study demonstrated that vascular tumors predominantly affected the head/neck region. However a shift was noticed whereby Kaposi lesions were seen predominantly in the lower

limbs. Other authors have documented head and neck lesions as the commonest sites for vascular tumours.^[4,12,13] Dubois documented a prevalence of 60% of vascular tumours lesions in the head/neck and Obasiki 39.5% at Benin in their studies.

In our study malignant lesions were not common only two cases of angiosarcoma were seen. But we had no facilities to identify the markers like CD₃₁, Fli₁, ERG and epithelial antigens like EMA, Cam 5.2 and AE ¹/₃ that are usually elaborated from these tumors to differentiate them from carcinomas.

CONCLUSION

Benign tumours are still the commonest vascular tumours. HIV Aids pandemic is increasing the number of cases of Kaposi sarcoma a border line vascular tumour. There is need for more research to improve on the prevention and treatment of the Kaposi disease.

ETHICAL APPROVAL

Ethical clearance to carry out the research was given by the hospital management through the hospital ethical committees of the Federal Medical Center Makurdi and Benue State University Teaching Hospital.

LIMITATIONS OF STUDY

Many lesions in the borderline tumours were not seen during the study period. This may be due to poor documentation in the medical records and may affect true prevalence.

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