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Original Article

Angiolymphoid Hyperplasia with Eosinophillia - A Rare Entity

Tariq N, Sadiq S, Kehar SI

Objectives: To Know the frequency of angiolymphoid hyperplasia with eosinophilia.

Study Design: Cross sectional.

Material and Methods: Retrospective cases were retrieved from the files of basic Medical Science Institute, of JPMC, over a period of 9 years (2000-2001).

Results: Only 8 cases were reported over a period of 9 years giving an average of one case every 13 months confirming the rarity of occurrence of this lesion. Maximum cases of ALHE were seen between 21-30 year. The lesion was found more commonly in males with 7 cases and only one female. 75% of the lesion in our study was in the head and neck region similar to the Western studies 8.3% cases were seen in abdomen 8.3% in the back and 8.3% in the vessels. One case was seen arising within the radial artery. In all our cases small & medium sized vessels were involved with plump endothelial cells. Cellular component comprising of lymphocytes, histiocytes & eosinophils were seen in almost all reported cases. However lymphoid follicle was seen in only one case.

Conclusion: It is an unusual benign vascular tumour, it is seen predominantly among Asians than in Whites, more common in young males in second to third decades. Clinically the lesions affects the scalp, face, ears and periauricular area as well as the neck. Peripheral blood eosinophilia and lymphadenopatly is usually associated together ALHE is marked by proliferation of blood vessels with distinctive, large endothelial cells. These blood vessels are accompanied by characteristic inflammatory infiltrate that includes eosinophils. Intra vascular forms of this tumour are also of note.

Keywords: Angiolymphiod hyperplasia, Esosinophilia.

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CONTRIBUTION OF AUTHORS	
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A	
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Introduction

Angiolymphoid hyperplasia with easinophilia (ALHE) is an unusual but distinctive vascular tumor that was first described by Wells and Whimster(1) as subcutaneous angiolymphoid hyperplasia with eosinophilia. Later Mehregens et al dropped the subcutaneous retaining the term angiolymphoid hyperplasia with eosinophilia(2) subsequently others described it as inflammatory angiomatous nodules, atypical or pseudopyogenic granuloma(3) and histeocytoid haemangioma(4).

Author's Correspondence
Prof. Naila Tariq
Head of Department,
Clinical Pathology, JPMC Karachi

The lesion reported in Japanese Literature as Kimura's disease is different entity reported by kimura in 1948(5). Angiolymphoid hyperplasia should be distinguished from kimura's disease as kimura's disease is associated with markedly elevated peripheral eosinophilia and elevated serum IgE levels as well as lymphadenophathy. Clinically, it is usually a deep solitary large lesion with normal overlying skin. Histologically, it is characterized by a marked lymphoid hyperplasia with an inflammatory infiltrate rich in eosinophils and fibrosis, compared to ALHE the vascular component is much less prominent and lacks the characteristic endothelial cells and lymphadenopathy. In kimura's disease there is characteristic eosinophilic microabscesses and heavy IGE deposition in the germinal centers. (6,7,8,9)

The differential histopathological diagnosis between ALHE and kimura's disease is given in Table: 1 (10).

Table 1: Difference between AHLE and Kimura's Disease

Angiolymphoid Hyperplasia Hyperplasia with Subcutaneous Eosinophilia	Kimura Disease
It does not look like lymphoid tissue in low magnification	Similar to lymphoid tissue is low magnification
Predominantly blood vessel disorder	Predominantly lymphoid follicle disorder
Dilated blood vessels, some of them with bizarre and irregular shape in the dermis and/or subcutaneous tissue	Absence of irregular and dilated blood vessels
Few or none lymphoid follicle	Numerous lymphoid follicle
Presence of smooth muscles in blood vessel wall	Absence of smooth muscles in blood vessel well
Abundant mucin in blood vessel wall	Absent mucin in blood vessel walls
Blood vessels with enlarged and protuberant endothelial cells, some of the polygonal shape and with abundant cytoplasm	Non –protuberant endothelial cells vascular lumen
Presence of one or more vacuoles in the cytoplasm of abnormal endothelial cells	Absence of vacuoles in endothelial cell cytoplasm
The number of eosinophils ranges from none to many	There are numberous eosinophils
Subcutaneous tissue is not replaced by fibrosis	subcutaneous tissue is not highly replaced by fibrosis
It does not extend muscle fascia	It extends to muscle fascia and sometimes to skeletal muscle

ALHE is a benign uncommon idiopathic skin disease occurring slightly more frequently in males is third and fourth decade, with no racial predominance. However it is seen more commonly in Asians than in whites. Clinically the lesion appears dome shaped smooth surface, affecting the scalp, face, ear and periauricular area as well as the neck. Peripheral blood eosinophilia and lymphadenopathy are each associated in only 20% of cases. Rare extracutaneous involvement has been repoeted especially in the nasal mucosa, oral mucosa, muscle, bone, salivary glands (11, 12, 13) and orbital area (14, 15).

In some cases with subcutaneous extensions, an underlying A-V malformation could be demonstrated. ALHE has a benign course, with some cases showing spontaneous regression. However, 33% recurrence rate has been reported even after successful treatment.

The etiology of ALHE is still unknown, and proposed pathogenesis includes a neoplastic process, a hypersensitivity reaction , inflammatory vascular reaction or a tissue reaction to a previous trauma seen in case of acquired traumatic A-V fistulas.
(16, 17).

ALHE is marked by a proliferation of blood vessels with distinctive, large endothelial cells, have uniform ovoid nuclear and intra cytoplasmic vacuoles. These endothelial cells have been described as having cobblestone appearance in addition they are accompanied by a characteristic inflammatory infiltrate that include eosinophils. Occasionally, the infilterate is devoid of eosnophils, lymphoid aggregates with or without follicle formation are typical. Although the lesion is benign but may be persistent and is difficult to eradicate. There has been reported cases described as follicular mucinosis and ALHE occurring in the same biopsy specimen. Interestingly one report of monoclonality in patient with ALHE who subsequently progressed to mycosis fungoides raises the question whether or not ALHE could be an early form of T. cell lymphoma (18)

Being a rare entity we represent our experience of Angiolymphoid hyperplasia with eosinophilia at the department of Basic Medical Science Institute, over a period of 9 years. (2000 to 2009)

Materials & Methods

A retrospective study of all cases of angiolymphoid hyperplasia with eosinophilia seen in the department of pathology, Basic Medical Science Institute, JPMC, Karachi, over a period of 9 years, (2000-2009) were taken. This was a retrospective study with cases retrieved and re assessed in relation to age, sex and site. H & E stained glass slides were examined and the pertinent histological features seen, where indicted special stains like trichrome was done.

The relevant clinical and laboratory data regarding eosinophilia was collected from clinical records of the department. A few more cases reported as angiolymphoid hyperplasia were included in order to exclude the positivity of ALHE.

The slide stained with heamotoxylin & Eosin (H & E) were reviewed for morphological features in each case. Special stain Trichrome was done where required. All the slides were studied under light microscopy using scanner (4x) low power(10x) and high Power (40x) lenses. Various parameters were recorded as given in the tables 2 & 3.

Observation and Results

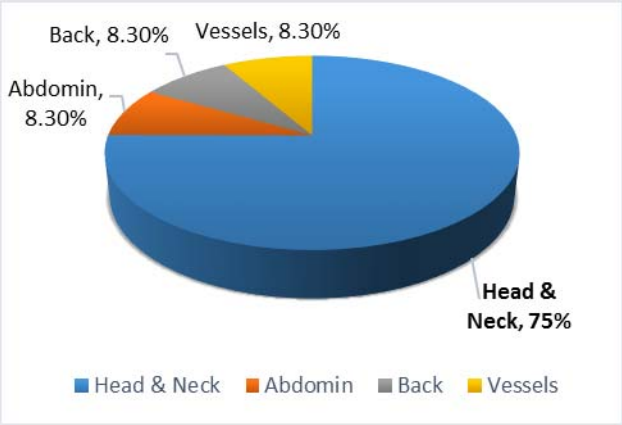
Only 8 cases were reported in a period of 9 years giving average of one case every 13 months, thus confirming the rare occurrence of this lesion

AGE GROUP	NO OF PATIENT S	SEX	
		MALE	FEMALE
0-10 Years	-	-	-
11-20 Years	2	2	-
21-30 years	4	3	1
31-40 Yers	2	2	-
40-50 Years			
TOTAL No.	8	07 (87.5%)	01 (12.5%)

Table 2 shows the age and sex related distribution of the lesion revealing that the lesion was found more commonly in males and female. The maximum cases of ALHE was seen between 21-30 years.

Majority of the cases 75% were seen head and neck region following by one case each (8.3%) each in the skin of abdomen and back. One case (8.3%) was intra vascular seen in radial artery.

Figure 3:- Frequency of ALHE according to site



On histopathological examination majority of cases showed dermal lesion (3 cases), subcutaneous involvement was seen in 2 cases (%) while 2 cases showed both dermal and subcutaneous lesion.

Table-3:- Distribution of lesion in skin according depth

Location	No	%
-	-	
Dermis	3	
Subcutis	2	
Both	2	
Intra Vascular	1	

Intra-vascular lesion also confirmed on histopathology. Lymphoid hyperplasia with reactive germinal centers was also seen in a single case. (Fig 1,2 & 3).

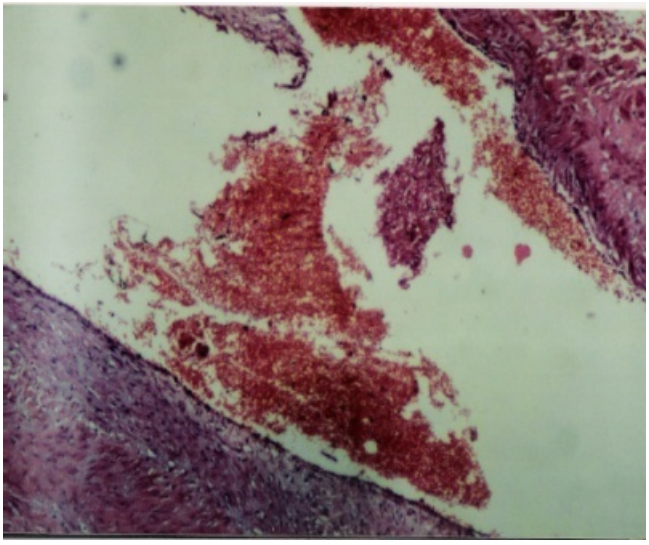


Fig.1: Intra-Vascular lesion Redial Artery

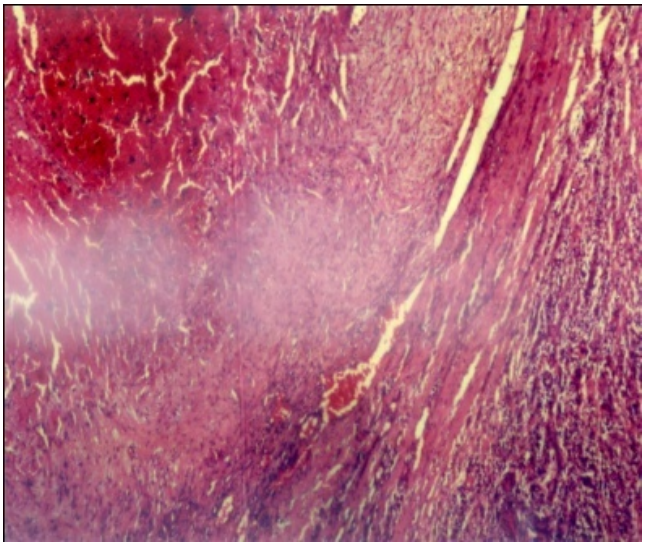


Fig.2: Intra-vascular radial artery lesion

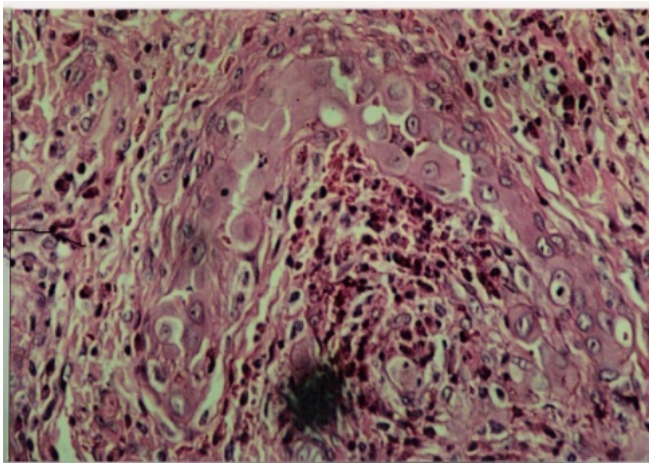


Fig.3: Intra-vascular Proliferation Vascular component along with Mixed inflammatory infiltrate comprising manly eosinophils

Discussion

Angiolymphoid Hyperplasia with eosinophillia occur during early to mid-adult life in ages between 20-40 years. All the cases in the study were also seen in age range between second and fourth decade with majority occurring in third decade. In our experience 07 cases were males and only single case was female mostly between 20-30 years age. Although ALHE has been reported more often in males than females in early in early to mid-adult life while difference in patterns has been seen. The patients are predominantly young males in second decade. This condition is also reported in children (19).

Approximately 85% of ALHE lesions occur in skin head and neck region most of them on or near the ear or on the fore head or scalp. Present study also show 75% cases occurring in the skin involving head and neck area and pinna. One case each was seen in the skin of abomen and back. Histologically these tumors were circumscribed lesions of the subcutics or dermis but were mostly seen in both dermis & subcutis. Special stain trichrome showed subendothelial fibroblastic proliferation. One of the case was intra vascular (8.3%) seen in radial artery. Tsnag and Chan (1993) Rosia Gold and landy (1979), Fetsch and Weiss (1991) and Oh and Kim (1998) also described these intra vascular forms along with cutaneous froms. The intra vascular form of this lesion may cause diagnostic problems and various studies done on ALHE have emphasized and focused on this issue extensively.

Further studies are recommended in order to provide and insight regarding the etiological and management factors. The two histological components of this lesion as described in various studies are cellular and vascular.

The present study show both cellular and vascular components in all the cases, which show small and medium sized blood vessels lined by plump endothelial cells. The cellular component comprised of lymplocytes, histeocytes and eosinophils. However, lymphoid follicles were seen in only a single case.

The cases were not completely correlated with eosiniphilia as they were retrospective cases however where ever possible records of labs were checked for eosinophilia. Despite their benign nature considerable controversy still exits regarding the basic nature of these lesions. Whether this condition is a neoplastic or reactive state is uncertain. However numerous factors suggest that it is an unusual reactive process. ALHE has occurred following various forms to trauma or infection. Histologically most cases of ALHE show damaged of tortuous arteries and veins at the base of the lesion, 60% show mural damage suggesting that arteriovenous shunting may play a role in the pathogenesis. The most common differential diagnosis is kimura disease, but lesions are in deeper tissue such as lymph node salivary gland and sub cutis. Histologically is has eosinophilic abscess, eosinophils infiltrating germinal centers and dermal sclerosis. Also vessels of kimura disease generally lack an epitheloid lining.

Hemangioma lacks inflammatory infiltrate rich in lymphocytes & eosinophils. Whereas Angiosarcoma has malignant spindle cells

Conclusion

The disorder being a rare entity is considered as vascular malformation resulting from arterio venous shunt both in Western and in our part of the world. Hence it emphasizes the need to recognize the entity both for the benefits of clinicians, pathologist and the patients.

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