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ORIGINAL ARTICLE

ORIGINAL ARTICLE: LEUCOCYTOCLASTIC VASCULITIS: A CLINICOPATHOLOGICAL STUDY

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ABSTRACT: Vasculitis is the inflammation of blood vessels weather it can be arteries, veins or both. In CSVV, the vasculitic process involves just the small blood vessels within the skin, primarily postcapillary venules. The etiology and clinical features are varied but histopathology is characterized by leucocytoclasia. **AIMS AND OBJECTIVES**: The present study was done to know the spectrum of various cutaneous manifestations and etiology of leucocytoclastic vasculitis. **MATERIALS AND METHODS**: The study was carried out on patients who were clinically diagnosed as cutaneous vasculitis, attending the outpatient department of dermatology, venereology and leprosy, King George hospital, affiliated to Andhra medical college, Visakhapatnam from January 2013 to December 2013. It is a cross-sectional type of study and a total of 20 cases were studied. **INCLUSION CRITERIA**: All patients attending to opd, clinically diagnosed as cutaneous vasculitis irrespective of age and sex were included in study. **EXCLUSION CRITERIA**: Patients with thrombocytopenic purpura, disorders of coagulation and on warfarin/heparin treatment. **RESULTS**: Out of 20 patients enrolled in study, most common age group is in between 20-40 years, female preponderance, and most of patients, 75% presented acutely with lesions less than 6 weeks duration, 70% of patients had symptoms of burning and itching in lesions, 40% had history of low grade fever, 45% had arthralgias, 50% had gastrointestinal symptoms, 20% had history of sore throat, 10% had history of significant drug exposure within 6 weeks of onset of lesions. Majority of patients had elevated ESR (75%). 25% of patients had ASO titres positive, of which only 15% has throat swab positive for beta-hemolytic streptococci, ANA titres were positive in 5%, renal involvement in the form of albuminuria was seen in 20%, hematuria in 10%, urinary tract infection in 10% of cases, histopathology of all patients showed leucocytoclastic vasculitis. **CONCLUSION**: In the present study leucocytoclastic vasculitis secondary to infections is most common etiology found, so infections like sore throat and urinary tract infections should be ruled out as prompt treatment resolves vasculitis.

KEYWORDS: leucocytoclastic vasculitis, palpable purpura, beta-hemolytic streptococci, idiopathic vasculitis.

INTRODUCTION: Cutaneous vasculitis presents as a mosaic of clinical and histological findings due to varied pathogenic mechanisms.[1,2] A definitive diagnosis of vasculitis requires histological confirmation in almost all cases because few vasculitic syndromes have pathognomonic clinical, radiographic and/or laboratory findings. However, histopathologic diagnosis alone cannot stand by itself and must be correlated with clinical, physical and laboratory findings.[3,4,5]

MATERIALS AND METHODS: The study was carried out on patients who were clinically diagnosed as cutaneous vasculitis, attending the outpatient department of dermatology, venereology and

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leprosy, king George hospital, affiliated to Andhra medical college, Visakhapatnam from january 2013 to December 2013.it is a cross-sectional type of study and a total of 20 cases were studied. Inclusion criteria: All patients attending to opd, clinically diagnosed as cutaneous vasculitis irrespective of age and sex were included in study.All patients with leucocytoclastic vasculitis in hstopathology were included for clinical, etiological and laboratory correlation. Exclusion criteria: Patients with thrombocytopenic purpura, disorders of coagulation and on warfarin/ heparin treatment. The study protocol included detailed history and clinical examination. The following investigations were done: complete haemogram, renal and liver function tests, urine analysis, antinuclear antibody (ANA), antineutrophilic cytoplasmic antibody (ANCA), Rheumatoid factor (RF), C-reactive protein (CRP), cryoglobulins, lupus anticoagulant, HBsAg, anti HCV antibody, anti streptolysin O (ASO) titre, throat swab for culture and sensitivity, Chest X-ray and Mantoux test. Other tests carried out depending upon the clinical indications included stool for occult blood, 24 hour urinary protein, sputum for acid fast bacilli (AFB), HBV RNA, Anti HBc IgM, dsDNA, anti Ro/anti La antibody, IgA, IgG, IgM, C3, HIV serology, X-ray of wrist and feet, arterial and venous doppler, ultrasonography (USG) abdomen, echocardiography, renal biopsy, contrast enhanced computed tomography of chest, digital subtraction angiography (DSA) and contrast enhanced magnetic resonance angiography. Two skin biopsies (punch biopsy, 4 mm) were taken in all cases, one each for routine histopathology and direct immunoflourescence (DIF).

RESULTS: 20 patients who were clinically diagnosed as cutaneous small vessel vasculitis and histologically confirmed as leucocytoclastic vasculitis were included in the study and all parameters were evaluated. Most common age group affected with vasculitis is middle age between 21-40 (45%) years and 41-60 years (35%) [Table 1]. There were 8 males and 12 females [Table 2]. 75% of patients has onset of disease less than 6weeeks. Most common presentation was palpable purpura in around 75% followed by ulcerations in 25%.70 % of patients had symptoms of burning and itching, pain in the lesions was seen in 35% of patients.

Systemic symptoms were seen in 80% out of which, 40% had history of low grade fever, 45% had arthralgias, 50% had gastrointestinal symptoms, 20% had history of sore throat, there is history of UTI and hematuria in 10% each. [Table 4].

10 % had history of significant drug exposure within 6 weeks of onset of lesions.

Laboratory Parameters: Majority of patients had elevated ESR (75%), anemia is seen in 25%, leucocytosis in 5%, 25% of patients had ASO titres positive, of which only 15% has throat swab positive for beta-hemolytic streptococci, ANA titres were positive in 5%, renal involvement in the form of albuminuria was seen in 20%, hematuria in 10%, suggesting of urinary tract infection in 10% of cases. Urine for culture and sensitivity isolated Escherichia coli in 10%. Stool for occult blood was positive in 10%. Other parameters were with in normal limits in all patients.

DISCUSSION: The most common clinical presentation was palpable purpura,[1,5,6] involving dependent areas such as legs, ankles, feet and buttocks seen in 75%% of patients. This was comparable with earlier studies by Sais et al[7] and Ekenstam et al[8] in 89.2 and 62% of cases, respectively. The second most common type of lesion in our study was cutaneous necrotic or crusted ulcers observed in 25% of patients. In comparison, Sais et al.[7] observed cutaneous ulcers in 20.3% of patients.

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Symptoms such as burning and itching were present in 70%, pain in 35%, this is comparable with the previous study done by gupta et al in which 30% patients had painful lesions.[8]

Fever was seen in only 40% of our patients while it was seen in 31.6% patients by Sais et al[7] Arthral gias were seen in 45% of patients in present study, mainly large joints (knee joints>ankles>elbow>wrists), small joint arthritis was seen in one patient [Which is consistent with connective tissue disease Syatemic lupus erythematosus.This is comparable with study done by gupta et al[11] where musculoskeletal system involvement was seen in 36% patients. This was again in consistent with study by Ekenstam et al.[9] where musculoskeletal system was commonly involved system in 43% patients and study done by Sais et al.[7] with joint involvement in 36.7% of all cases. Gastrointestinal (GIT) involvement was seen in 40% of our patients mainly in the form of pain in abdomen, diarrhea, frank blood and occult blood in stools in LCV, GIT involvement was seen in 26% in gupta et al study,[11] while it was seen in 9.5% cases by Sais et al.[7]

Winkelmann and Ditto[10] found renal involvement in 61% of their patients, while in our study renal involvement was seen in only 25% of patients, as 5 patients had albuminuria and 2 patients has hematuria.This is comparable with study done by gupta et al[11] where renal involvement was seen in 16%.10 % of patients in present study had urine culture and sensitivity for ecoli which is consistent with the infective etiology of vasculitis.

10% of patients in present study had relevant drug exposure and it is consistent with Ekenstam et al study.[8] NSAIDS are the most common offending agents in present study.

The laboratory parameters elevated ESR in 15 (75%) patients, anemia in 5 (25%) and leukocytosis in 5% patients. Sais et al[7] observed elevated ESR in 52.4% patients, anemia in 37% and leukocytosis in 18%. The present study was consistent with study done by sias et al.[7] 25% of patients has albuminuria, 10%has RBCs in urine microscopy. Same patients has history of hematuria consistent with vasculitis of renal glomeruli. The collagen vascular disease workup revealed positive ANA in two patients, whch is consistent with study one by gupta et al (6%)[11]

Histopathology all patients had leucocytoclasia, neutrophilic infiltration in the vessel wall, fibrinoid necrosis, extravasation of RBCS and neutrophils. Direct immunoflorescence was positive in 15 cases (75%) with predominant C3, followed by IgG and IgA.

Out of all 20 patients, in present study all cases histopathologically confirmed as leucocytoclastic vasculitis, 4 cases (20%) are henoch schonlein purpura[9] diagnosed by history and deposition of IgA in biopsy for DIF.

Out of all 20 patients, in present study all cases histopathologically confirmed as leucocytoclastic vasculitis, 4 cases (20%) are henoch schonlein purpura diagnosed by history and deposition of IgA in biopsy for DIF. The etiology for various patients of LCV and comparision with study by gupta et al[11]were concluded in table 5.

CONCLUSION: Leucocytoclastic vasculitis is a small vessel vasculitis primarily involving skin. The present study there is female preponderance, middle age persons are commonly affected, in the etiology prior infections like streptococcal sore throat, urinary tract infections are more commonly identified than in other studies, so infective etilogy should be ruled out in every case particularly in areas where there is high prevalence of sore throat and treated promptly for resolution and to decrease recurrences.

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Age	No. of Patients
<20years	4
21-40 years	9
41-60years	7
>61years	-

Table 1: Age Distribution

Sex	No. of Patients	Percentage
Males	8	40%
Females	12	60%

Table 2: Sex Distribution

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Systemic Symptoms	Percentage
Fever	40%
Arthralgias (knees>>ankles)	45%
Gastrointestinal- pain abdomen Melena diarrhoea	40% 10% 5%
Sore throat	20%
Urinary tract infection	10%
hematuria	10%

Table 3: Systemic Symptoms

Laboratory Parameter	Percentage
Anemia	25%
Leucocytosis	5%
Asotitres	25%
Throat swab for culture and sensitivity	15%
ANA titres	5%
Urine albumin Urine sugar RBCS Urine culture and sensitivity	20% - 10% 10%
Stool for occult blood	10%

Table 4: Laboratory Parameters

Etiology		Present Study	Gupta et al
Infections- post streptococcal	3	15%	26%
E.coli	2	10%	
Connective tissue disease	2	10%	6.5%
Drug induced	2	10%	50%
malignancy	1	5%	-
Idiopathic	4	20%	26%
Henoch schonlein purpura	4	20% 10%- idiopathic 10%- poststreptococcal	

Table 5: Etiology of Leucocytoclastic Vasculitis

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