Section: Dermatology

Original Research Article

A CLINICOEPIDEMIOLOGICAL STUDY ON IG A VASCULITIS IN ADULTS AND CHILDREN

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Abstract

Background: The IgA vasculitis is a small vessel vasculitis.It is more common in children.It is formerly known as Henoch Schonlein purpura.Palpable purpura is the first and most common sign.It is underreported in adults. The aim of the study is to compare the Clinical and epidemiological features of Ig A vasculitis in adults with that of IgA vasculitis in Children. **Material and Methods:** The study was conducted in the Department of Dermatology, Government Rajaji Hospital ,Madurai Medical college among the patients attending dermatology OPD with cutaneous small vessel vasculitis. The study was done for a period from June 2020 to May 2021.65 study participants recruited based on inclusion and exclusion criteria. The enrolled study participants were randomized and allocated into two groups (Adult-34,children-31)..Baseline characteristics of the study participants were obtained. Occupation history is also elicited. Clinical examination both general and systemic were done. Detailed Skin examination was done. Laboratory test, throat swab and Ultrasound abdomen was also done. Data collected were entered in MS Excel and the statistical analysis was done in SPSS 23.p value <0.05 is considered as statistically significant. **Results:** Majority of the study participants were in 19-40 years 21(62%)of age in adults and less than 10 years in children.Female preponderance were more in our study. Disease manifestation is observed more in summer for adults and winter for children.For majority of the diseases the etiology was unknown. Joint pain,pedal edema and itching over the lesion is significant in adults compared to children. In 30(96%) of the study participants present with palpable purpura whereas in adults only 25(73%) were with palpable purpura followed by ecchymotic patches 4(12%). Thrombocytosis was seen more in Children 5(16%) and 2(6%) in adults and it was found to be statistically significant.ASO titre was found to be increased in adults. Microscopic hematuria was noted in 3(9%) of adults and 2(7%) in children. Throat swab was found to be positive only in 2(6%) of adults.Recurrence was more in adults. **Conclusion:** Our study concluded stating that IgA vasculits is adults is not uncommon and it is frequent as in children.Hence IgA vascultitis should be considered as one of the differential diagnosis for adults with vascultis. Longer follow up has to be done in adults with elevated renal parameters to uncover the delayed systemic complications.

INTRODUCTION

IgA vasculitis is a disease which involves deposition of immune complexes containing IgA along the joints, kidneys, gastrointestinal tract. It less commonly affects the central nervous system and testicles. It is a subset of vasculitis. Small vessel vasculitis affects both children and adult. It predominantly occurs in 3-15 years of age. More than half of the cases occurs in less than 5 years of age. Male: Female ratio of the disease is 1.5:1. The disease most commonly peaks in winter.[1,2] The incidence ranges from 6-24 per 100,000.[3]

It is either primarily arising denova or may occur secondary to infection, drugs, autoimmune diseases and malignancy. It is also suggested that environmental factors, lifestyle, economic status and genetic factors also associated with incidence of the

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disease. The presentation varies widely as the signs and symptoms depends on the system involved and affected.[4,5] It is characterised by palpable purpura, arthritis, abdominal pain and renal involvement. The pathology behind IgA vasculitis is indicated by increased concentration of IgA and deposition of IgA in the renal glomeruli and vessel walls.[6] IgA vasculitis might be more common in children but due to underdiagnosis and couldn't differentiate between the essential differences between children and adults.[7,8]

IgA adults associated with severe diseases and therefore it is essential to focus on its management.[9] IgA vascultis is otherwise known as Henoch Schonlein pupura (HSP). It is frequently a self limiting disease with favourable diagnosis if it not involves the renal system. It takes around four weeks for recovery in two thirds of the patients. But in one half the patients the recurrence occurs within 4 weeks to two years. More often in Adults IgA is idiopathic and 12.5% to 26% is reported as drug implicated whereas in 23% to 35% it is due to infections. Relapses occurs in 30% of the study participants and mostly of cutaneous. In adults recalcitrant is more common. Mortality is more in older patients with IgA vascultis. Though many studies were done among children ,paucity of studies seen in adults.[10,11,12,13,14]

Aim Of the Study

To compare the Clinical and epidemiological features of Ig A vasculitis in adults with that of IgA vasculitis in Children.

MATERIALS AND METHODS

Study Setting: This study was conducted in the Department of Dermatology, Government Rajaji Hospital, Madurai Medical college among the patients attending dermatology OPD with cutaneous small vessel vasculitis. The study was done for a period from June 2020 to May 2021.

Study Design: Comparative cross sectional study

Inclusion Criteria

- All patients with palpable purpura fulfilling the diagnostic criteria of IgA vasculitis.
- Age >18 years and both sexes

Exclusion Criteria

- Patients not fulfilling diagnostic criteria
- Patient who were unwilling for the study

Sample Size

The study participants fulfilling the inclusion and the exclusion criteria were included in the study throughout the study period. The final attained sample is 65.

Data Collection Method: After obtaining the Institutional Ethical Committee clearance, the study was started after obtaining patients informed consent**.** Based on inclusion and exclusion critieria the study participants recruited during the study period is 65**.** A detailed history was taken which includes name, sex, presenting symptoms, duration, joint pain, systemic symptoms, history suggestive of malignancy and collagen vascular diseases, drug intake history, past history of sore throat infection. Occupation history is also elicited. Clinical examination was done .Both general examination and systemic examinations. Detailed Skin examination was done i.e the morphology, distribution, symmetry, tenderness .Diascopy was also done.

Baseline Laboratory investigations were done which includes complete hemogram, serum urea, serum creatinine, liver function tests. chest X ray, urine (routine and microscopic haematuria), stool occult blood test, CRP, ASO titre, throat swab culture, ANA, USA Abdomen and pelvis. Patients were screened for HIV, Hepatitis B and C. Punch biopsies were done from the early tender skin lesions and sent to H & E. Direct immunofluorescence were done for the early skin lesions.

Statistical Analysis

The obtained data was entered in MS Excel Windows 10. Statistical analysis was done with the help of SPSS 23.Continuous data was expressed in terms of mean and standard deviation. Categorical data was expressed in terms of Numbers and Percentages. Test of association for Categorical data was Chi square test and for Continuous data was t test and Anova test. p values <0.05 is considered as statistically significant.

RESULTS

Table 1: Demographic profile of the study participants

Baseline Characteristics	Adult (N=34)	Children (N=31)	P value
Age			
<10 years	**0(0%)**	**19(61%)**	**<0.001**
11-18years	**0(0%)**	**12(39%)**	
19-40 years	**21(62%)**	**0(0%)**	
41-60 years	**13(38%)**	**0(0%)**	
Sex			
Male	**14(41%)**	**13(42%)**	**0.54**
Female	**20(59%)**	**18(58%)**	

Majority of the study participants were in 19-40 years 21(62%)of age in adults and less than 10 years in children. Female preponderance were more in our study.

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Table 2: Epidemiological profile of the study participants

Variables	Adult (N=34)	Children (N=31)	P value
Duration of illness			
<5	**20(59%)**	**29(94%)**	**<0.001**
>5	**14(41%)**	**2(6%)**	
Seasonal variation			
Summer	**19(56%)**	**10(32%)**	**<0.001**
Winter	**7(20.5%)**	**17(55%)**	
Monsoon	**8(23.5%)**	**4(13%)**	
Etiological factors			
Unknown	**27(79%)**	**19(61%)**	**8.172**
URI	**5(15%)**	**12(39%)**	
Drugs	**2(6%)**	**0(0%)**	
Kobernisation			
Positive	**5(15%)**	**0(0%)**	**0.07**
Negative	**29(85%)**	**31(100%)**	

Disease manifestation is observed more in summer for adults and winter for children. For majority of the diseases the etiology was unknown followed by URI. Kobernisation was seen more in adults (15%).

Table 3: Clinical profile of the study participants

Clinical features	**Adult (N=34)**	**Children (N=31)**	**P value**
Sore throat	**5(15%)**	**1(3%)**	**0.24**
Fever	**16(47%)**	**8(26%)**	**0.13**
Itching	**14(41%)**	**2(6%)**	**0.003***
Burning sensation	**5(15%)**	**1(3%)**	**0.24**
Joint pain	**25(74%)**	**9(29%)**	**<0.001***
Joint swelling	**4(12%)**	**1(3%)**	**0.41**
Abdominal pain	**6(18%)**	**7(23%)**	**0.85**
Melena	**1(3%)**	**0(0%)**	**0.96**
Diarrhoea	**3(9%)**	**2(6%)**	**0.91**
Pedal edema	**7(21%)**	**0(0%)**	**0.02***
Past history of similar lesions	**7(21%)**	**3(7%)**	**0.38**

Joint pain, pedal edema and itching over the lesion is significant in adults compared to children. Other clinical symptoms are marginally more in adults compared to children.

Table 4: Laboratory parameters of the study participants

Variables	Adult (N=34)	Children (N=31)	P value
Hemoglobin			
<11 grams	**8(23.5%)**	**2(6%)**	**0.09**
11-13 grams	**18(53%)**	**20(65%)**	
>13 grams	**8(23.5%)**	**9(29%)**	
Platelets (Lakhs)			
<2	**3(9%)**	**2(7%)**	**0.003***
2.1-4.5	**29(85%)**	**24(77%)**	
>4.5	**2(6%)**	**5(16%)**	
ASO			
Positive	**5(15%)**	**0(0%)**	**0.07**
Negative	**29(85%)**	**31(100%)**	
RFT			
Elevated	**7(21%)**	**0(0%)**	**0.01***
Normal	**27(79%)**	**31(100%)**	
CRP			
Positive	**5(15%)**	**0(0%)**	**0.07**
Negative	**29(855)**	**31(100%)**	
Urine for RBC			
Positive	**3(9%)**	**2(7%)**	**0.914**
Negative	**31(91%)**	**29(93%)**	

Majority of the study participants have haemoglobin of 11-13 grams (Adult 18(53%) and Children 20(65%). Thrombocytosis was seen more in Children 5(16%) and 2(6%) in adults and it was found to be statistically significant. ASO titre was found to be increased in adults and none detected in children. RFT was found to be elevated in 7(21%) of the adults whereas in children it was in normal range. CRP was found to be elevated only in adults 5(15%).Microscopic hematuria was noted in 3(9%) of adults and 2(7%) in children.

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Table 5: Ultrasound and throat swab results of the study participants

Variables	Adult (N=34)	Children (N=31)	P value
USG abdomen			
Fatty liver	2(6%)	0(0%)	0.41
Bowel wall edema	1(3%)	1(3%)	
B/L ovarian mass	1(3%)	0(0%)	
Nil	30(88%)	30(97%)	
Throat swab			
Staphyloccous/Klebsiella	2(6%)	0(0%)	0.51
Nil	32(94%)	31(100%)	

In adult group the most common USG finding was fatty liver 2(6%) followed by bowel wall edema 1(3%) and B/L ovarian mass 1(3%). Whereas in children only 1(3%) bowel wall edema was reported. Others are normal. Throat swab was found to be positive only in 2(6%) of adults whereas no throat swab was found to be positive in children.

Table 6: Recurrence

Variables	Adult (N=34)	Children (N=31)	P value
Recurrence			
Yes	12(35%)	3(10%)	0.03*
No	22(65%)	28(90%)	

Recurrence was found to be more in adult 12(35%) compared to children 3(10%) and the difference was found to be statistically significant.

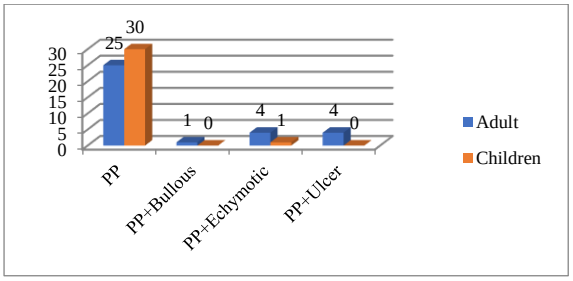
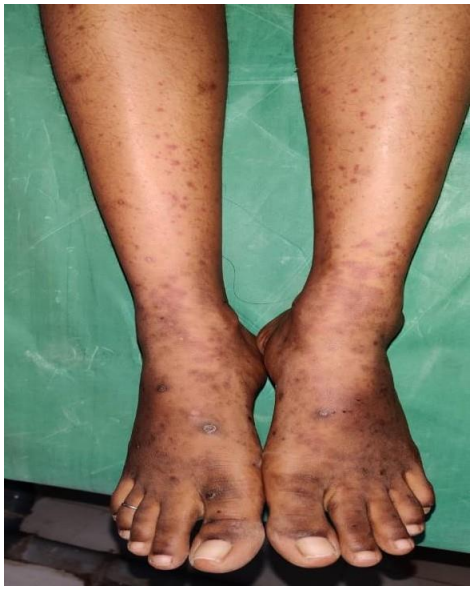
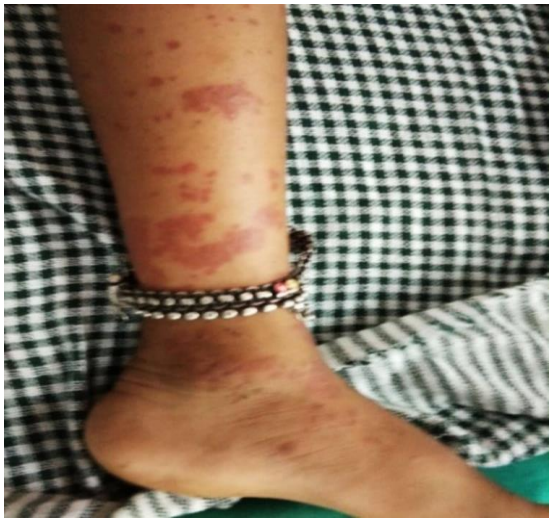


Figure 1: Type of skin lesions

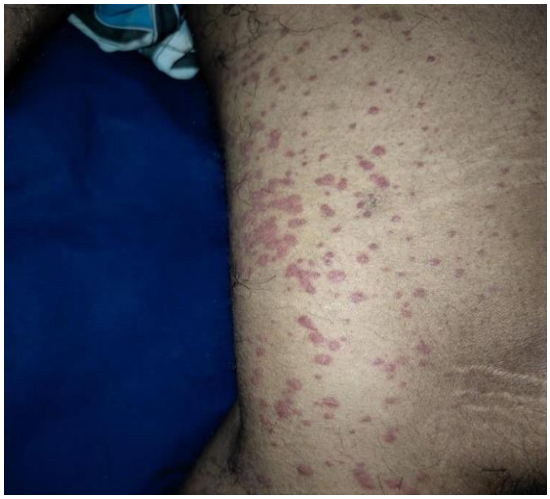
In 30(96%) of the study participants present with palpable purpura whereas in adults only 25(73%) were with palpable purpura followed by ecchymotic patches 4(12%) followed by ulcers 4(12%).



A) Palpable purpura in adults



B) Palpable purpura in children



C) Koebernisation in adults

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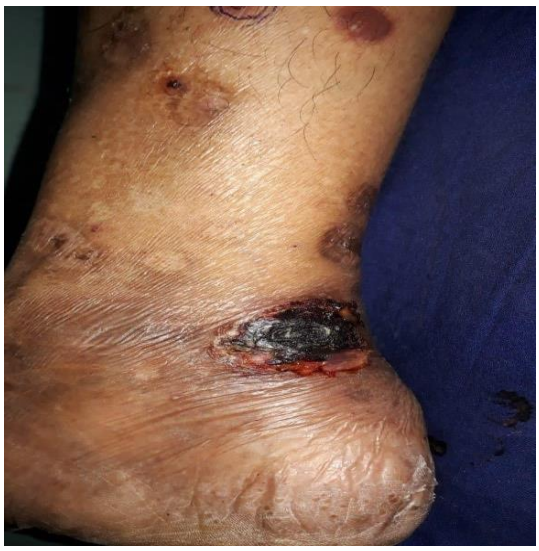
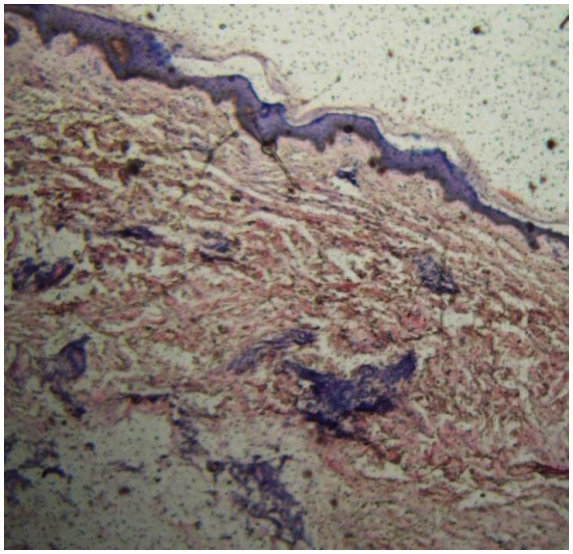
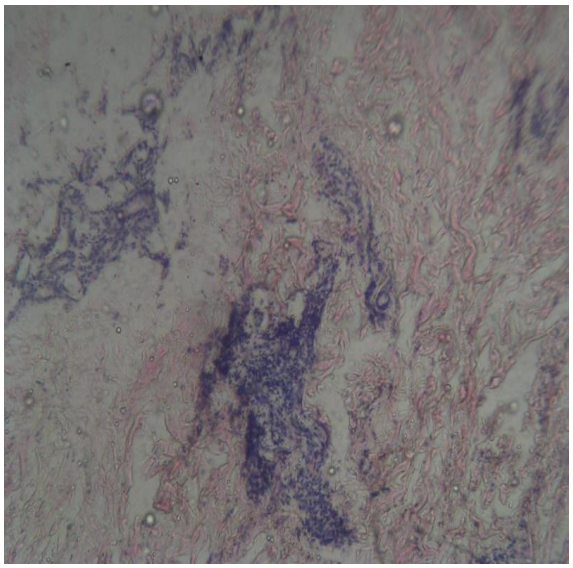


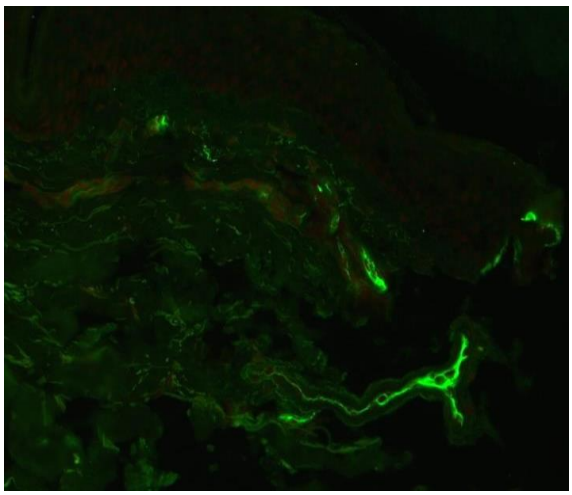
D) Bullous lesion in adults



E) Low power view showing epidermis with Perivascular infiltrate



F) High power view shows leucocytoclasic vasculitis



G) DIF showing blood vessel vessel wall staining with granular IgA deposits

DISCUSSION

In our study majority of the study participants were in 19-40 years 21(62%)of age in adults and less than 10 years (61%)in children. Similar results was also seen in uppal et al[15] study. Female preponderance were more in our study. Disease manifestation is observed more in summer for adults and winter for children. For majority of the diseases the etiology was unknown followed by URI. These results were similar to the Carlos Garcia et al study.[16] This is due to the reason of upper respiratory infection is common in children during winter and it is twice common in children compared to adults. For majority of the diseases the etiology was unknown followed by URI. Kang et al[17] also shown similar results.

In both the groups purpura was seen in all patients in the lowest extremities. Arthralgia was present in adults than in children. Joint pain was more in adults 79%. Ankle joints swelling seen in adults 11%.Gracia et al study showed similar results. Gastrointestinal symptoms was most common in paediatric group. Similar results was also seen in Y et al study.[18] Renal involvement is noted in 20% of the adult patients with elevated renal parameters whereas in children all patients have normal renal function. Hung et al[19] showed similar results.

During the disease course three children relapsed and 12 adult patients relapse. This results was similar to previous studies.

CONCLUSION

Our study concluded stating that IgA vasculits is adults is not uncommon and it is frequent as in children. Hence IgA vascultitis should be considered as one of the differential diagnosis for adults with vascultis. When compared with the children the duration and the severity was more in adults. Longer follow up has to be done in adults with elevated

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renal parameters to uncover the delayed systemic complications.

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Competing Interest

There is no competing interest

Authors Contribution

All authors in our study contributed to the data collection of the patients

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