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Study on Clinical Manifestations of SLE and its Anti-Nuclear Antibodies Profile.

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ABSTRACT

Background: SLE clinical manifestations and course are highly variable, ranging from indolent to fulminant by the production of antibodies to cell nucleus components and also towards cytoplasmic antigens. Autoantibodies helps to diagnose SLE appropriately. The present study is undertaken to know the varied clinical features of SLE prevalence and also to know the ANA profile in relation to SLE. **Methods:** All the patients were examined and advised to undergo an ANA profile diagnostic checkup by ELISA. ANA autoantibodies tested were anti dsDNA, anti-Nucleosome, anti-Histone, anti nRNP (Ribonucleoprotein), anti Sm (Smith), anti La, anti RO-52. ANA profile data was collected and also clinical features of SLE was noted. Collected data was analyzed and represented in the form of percentages. **Results:** Among these most predominant feature was oral lesions, was 87.5% and joint pains, was 82.8% followed by Hair loss (78.1%), fever (71.8%). Anti dsDNA antibodies were reported in 78.1% which were the most commonest autoantibodies. Among other autoantibodies, anti-histone anti-nucleosome were reported predominantly with percentages 56.2% and 29.6% respectively. **Conclusion:** Need a good diagnostic methods for confirmation of SLE and to start accurate treatment and also to assess the prognosis of SLE. Among various diagnostic methods analyzing ANA profile helps to confirm the diagnosis with good accuracy.

Keywords: Anti-Nuclear antibodies, Clinical features, Systemic Lupus Erythematous.

INTRODUCTION

Systemic lupus erythematosus (SLE) is a typical chronic autoimmune disease that can affect almost any organ system. SLE clinical manifestations and course are highly variable, ranging from indolent to fulminant by the production of antibodies to cell nucleus components and also towards cytoplasmic antigens.[1]

SLE is a disorder with significant morbidity and mortality. The most common organ system affects by SLE is kidney, usually presents as nephritis. SLE may be predisposed by many factors. The first factor is genetic predisposition which is the greatest risk factor. Second being the affection of response to specific. Other one is capability of target tissue to fight against the immune attack may be affected.[2]

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SLE is associated with HLA - DR2 and HLA - DR3.[3] The autoantibodies found in SLE are antinuclear antibody (ANA), antidsDNA antibody and anti-extractable nuclear antigen (ENA) antibody. Anti-ENA antibodies include anti-Smith (Sm), anti-ribonucleoprotein (RNP), anti-Ro and anti-La antibodies.[4]

The diagnosis of SLE is mainly depends on both clinical and laboratory investigations. Though a positive antinuclear antibody test by itself does not establish a diagnosis, it aids in complete physical examination and other lab testing, a positive ANA profile may help to establish a diagnosis.[5]

The present study is undertaken to know the varied clinical features of SLE prevalence and also to know the ANA profile in relation to SLE.

MATERIALS AND METHODS

This is a prospective observational random study done in the institute of Rajiv Gandhi Institute of Medical Sciences, Cuddapah. The study was approved by institutional ethics committee and informed consent was taken from all the studied population before doing this study. Study period was from March 2009 to May 2010. A total of 64 patients attending to medicine OPD who were diagnosed with Systemic lupus erythematous (SLE) were selected to do this study. All the patients were examined after taking history regarding age, sex, chief complaints, socioeconomic status, past history, usage of sulfonamides, coexistent diseases, and progression of disease. Local and systemic examination was done.

All patients underwent an ANA profile diagnostic work by ELISA. ANA autoantibodies tested were anti dsDNA, anti-Nucleosome, anti-Histone, anti nRNP (Ribonucleoprotein), anti Sm (Smith), anti La, anti RO-52.

Grading of ANA positivity

Borderline positive (+) – 1:40
Strongly positive (++) – 1:80
Very positive (+++) – 1:160

ANA profile data was collected and also clinical features of SLE was noted. Collected data was analyzed and represented in the form of percentages.

RESULTS

A total of 64 SLE patients were selected to do this study. Among them most common age group affected was 31-40 years (47.1%) followed by 21-30 years (25%). SLE patients in the age group of 1-10 years were not observed [Table 1].

Table 1: Age distribution among SLE patients

Age in years	No. of Patients	Percentage (%)
1-10	0	0
11-20	3	4.6
21-30	16	25
31-40	27	42.1
41-50	11	17.1
>50	7	10.9
Total	64	100

Females were predominant when compared to males. Out of 64 SLE patients, 45 (70.3%) were females and 19 (29.6%) were males [Figure 1]

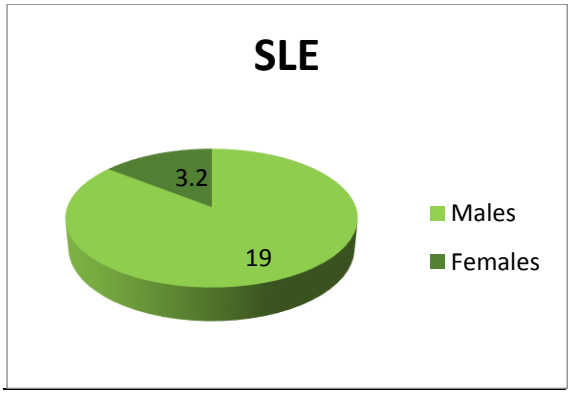

Figure 1: Distribution of sex among SLE patients.

SLE patients were presented with varied features including joint pains, oral lesions, skin manifestations, photosensitivity, renal involvement etc. Among these most predominant feature was oral lesions, was 87.5% and joint pains, was 82.8% followed by Hair loss (78.1%), fever (71.8%) [Table-2]

Table 2: Percentage of SLE patients with various clinical manifestations

Clinical features	No. of Patients (n=64)	Percentage (%)
Joint pains	53	82.8
Oral lesions	56	87.5
Fever	46	71.8
Itching	31	48.4
Photosensitivity	28	43.7
Swollen fingers	24	37.5
Raynauds phenomenon	8	12.5
Lympahdenopathy	17	26.5
Renal involvement	8	12.5
Seizures	5	7.8
Skin Manifestations		
Malar rash	17	26.5
Hair loss	50	78.1
Butterfly rash	19	29.6
DLE	38	59.3

On assessing autoantibodies among SLE patients. Positivity of ANA was shown in 65.6% SLE patients. Anti dsDNA antibodies were reported in 78.1% which were the most commonest autoantibodies. Among other autoantibodies, anti-histone anti nucleosome were reported predominantly with percentages 56.2% and 29.6% respectively [Table 3].

Table 3: ANA positivity among SLE patients.

Autoantibodies	Borderline Positive	Strongly Positive	Very Positive	Total
Anti dsDNA	3 (4.6%)	9 (14%)	38 (59.3)	50 (78. 1%)
Anti-nucleosome	8 (12.5%)	7 (10.9%)	4 (6.25%)	19 (29. 6%)
Anti-histone	14 (21.8%)	10 (15.6)	11 (17.1%)	36 (56. 2%)
Anti nRNP	0	2 (3.1%)	6 (9.3%)	8 (12. 5%)
Anti Sm	4 (6.25%)	2 (3.1%)	0	6 (9. 3%)
Anti La	5 (78.1%)	2 (3.1%)	0	7 (10. 9%)
Anti RO-52	6 (9.3%)	0	0	6 (9. 3%)

DISCUSSION

SLE is a chronic inflammatory autoimmune disorder which exhibits wide range of clinical manifestations and affects many organs of the body. Autoantibodies helps to diagnose many autoimmune disorders. In SLE, many of such autoantibodies can be detected, which helps to diagnose appropriately.

In this study out of 64 patients, most common age group affected was 31-40 years (47.1%) followed by 21-30 years (25%). SLE patients in the age group of 1-10 years were not observed. Out of 64 SLE patients, 45 (70.3%) were females and 19 (29.6%) were males, female predominance was observed. Various studies shown there is much predominance of females presenting with SLE when compared to males.[6-8] Women of child bearing age group of 21-40 years was most commonly affected which may be due to hormonal influences.

As per this study, most predominant feature was oral lesions, was 87.5% and joint pains, was 82.8% followed by Hair loss (78.1%), fever (71.8%), DLE (59.3%), itching (48.4%), photosensitivity (43.7%), swollen fingers (37.5%), Butterfly rash (29.6%), Malar rash (26.5%), lymadenopathy (26.5%), raynauds phenomenon (12.5%), renal involvement (12.5%), seizures (7.8%). Gastrointestinal, neuropsychiatric, pulmonary, cardiac involvement was not seen in this study.

Kosaraju K et al and Paul BJ et al among south indian patients also reported that arthritis was the most common manifestation.[9,10] In accordance to this study Kosarju K et al has reported malar rash and vasculitis ulcers not frequently observed.[9] They also mentioned that there is very less observance of raynauds phenomenon. Nephritis is most commonly observed among south east asian patients than in Indian patients.[9]

Butterfly rash was observed as 20.9% and 80% by Dubois et al [11] and Koel et al respectively.[12] Yell et al reported that the maculopapular lesions was 45% and 31.5% of oral ulcers.[13] Koel et al observed 50% of photodermatitis,[12] 56.6% of oral ulcers, 96.6% of patients presented with fever, 90% of polyarthritis.

Many types of autoantibodies were observed in SLE patients. In the present study, Anti dsDNA antibodies were reported in 78.1% which were the most commonest autoantibodies. Among other autoantibodies, anti-histone anti-nucleosome were reported predominantly with percentages 56.2% and 29.6% respectively. ANA is a diagnostic hallmark for SLE, shown about 95% of frequency among SLE patients.[14] In this study Positivity of ANA was shown in 65.6% SLE patients. Kosaraju K et al.[9] showed ANA positivity of 64.28% and anti-ds DNA positivity was 89.36%. Koel et al.[12] also reported anti ds DNA antibodies were most commonly reported (83.3%). Walling HW et al.[6] observed 66.7% of anti-ds DNA and 16.7% of anti sm antibodies among SLE patients. There are reported cases of ANA negative patients, one study from korea observed the Lupus nephritis patient with ANA negativity.[15]

CONCLUSION

In this study, SLE patients presented most commonly with Joint pains, fever, hair loss and oral lesions. SLE patients shown more positivity towards anti-ds DNA, anti-histone antibodies.

Many physicians face difficult to diagnose SLE for ruling out various differential diagnosis. Need a good diagnostic methods for confirmation of SLE and to start accurate treatment and also to assess the prognosis of SLE. Among various diagnostic methods analyzing ANA profile helps to confirm the diagnosis with good accuracy. ANA negative SLE cases were also reported, so there is a much need of clinical correlation of SLE cases with antinuclear antibodies profile.

REFERENCES

1. Mok CC, Lau CS. Pathogenesis of systemic lupus erythematosus. J Clin Pathol 2003;56:481-90.
2. Bolognia JL, Joseph LL, Rapini RP, Callen JP, Horn TD, Mancini AJ et al editors. Dermatology. 2nd ed. Spain: Elsvier; 2008.
3. Patel P, Werth V. Cutaneous lupus erythematosus: a review. Dermatol Clin. 2002;20:373-85.
4. Manolios N, Schrieber L. Systemic lupus erythematosus. In: Bradley J, McCluskey J, editors. Clinical Immunology. Philadelphia: Oxford Medical Publications. 1997.p.329-45.
5. Soter NA, Andrew GF,JR. The Skin and Rheumatic diseases. In: Harris ED, Budd RC, Mark GS, editors. Kelley's textbook of rheumatology,7thed. New York: Saunder-Elsevier; 2005. p. 658-74.
6. Walling HW, Sontheimer RD. Cutaneous lupus erythematosus: issues in diagnosis and treatment. Am J Clin Dermatol 2009;10:365- 81.
7. Stephen O, Kovacs MD. Dermatomyositis. JAAD 1998;139:899-913.
8. Tufarenelli DL. Systemic Scleroderma. Med Clin North AM 1989;5:1167-80.
9. K Kosaraju, S Shenoy, U Suchithra. A cross-sectional hospital-based study of autoantibody profile and clinical manifestations of systemic lupus erythematosus in south Indian patients. IJMM. 2010;28(3):245-247.
10. Paul BJ, Farsaludeen M, Kumar N, Razia MV. Clinical profile of SLE in Northern Kerala. J Indian Rheumatol Assoc 2003;11:94-7.
11. Dubois EL, Tuffanelli DL. Clinical manifestations of SLE. Computer analysis of 520 cases. J Am Med Assoc 1964;190:104-11.
12. Kole AK, Ghosh A. Cutaneous manifestation of systemic lupus erythematosus in a tertiary referral center. Indian J Dermatol 2009;54(2):132-6.
13. Yell JA, Mbuagbaw J, Burge SM. Cutaneous manifestation of systemic lupus erythematosus. Br J Dermatol 1996;135:355-62.
14. Provost TT, Razzaque A, Maddison PJ, Reichlin M. Antibodies to cytoplasmic antigens in lupus erythematosus: serologic marker for systemic disease. Arthritis Rheum. 1977;20:1457–1463.
15. Hyoun-Ah Kim, Jae-Wook Chung, Han-Jung Park, Dai-Yeol Jow, Hyun-Ee Yim, Hae-Sim Park and Chang-Hee Suh. An Antinuclear Antibody-Negative Patient With Lupus Nephritis. Korean J Intern Med 2009;24(1):76-79.

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