

THE FREQUENCY OF LUPUS NEPHROPATHY

Noor Mohammad, Rehmat Ghaffar, Yasin Khan, Rafiullah, Shahid Jamil

*Department of Medicine,
Postgraduate Medical Institute,
Hayatabad Medical Complex, Peshawar.*

ABSTRACT

Objective: To find out the frequency of subtypes of lupus Nephropathy in diagnosed cases of SLE.

Material and Methods: We did a hospital based study involving 25 cases of lupus nephropathy from 1998 to 2001 at the department of medicine Hayatabad Medical Complex Peshawar to find out the age, sex distribution, extent of renal damage, type of renal histology and the degree of proteinuria.

Results: Our study confirmed that lupus nephropathy is more common in females (92%). The commonest age affected is 20-40 years (84%) (median 34 years). Most of the cases have mild renal impairment (64%) and < 3 grams proteinuria (72%). W.H.O. Grade 3 glomerulopathy is the commonest histological lesion (40%), which is in sharp contrast to western figures.

Conclusion: Lupus nephropathy is more common in young females and present with protienureia while grade 3 glomemlopathy is the commonest lesion. A large community based study is needed to study the epidemiology of lupus nephropathy.

Key words: SLE, Lupus nephropathy, Autoimmune disease, Proteinuria.

INTRODUCTION

Systemic Lupus Erythematosus is an autoimmune disease. The incidence of S.L.E. is 4.5-7 per 100,000 cases in the western world. Its true incidence and prevalence is not known in our country because a large

number of cases are undiagnosed or misdiagnosed.¹ Renal involvement occurs in 25-50% cases of systemic lupus Erythematosis {SLE}, though it is not a common cause [5%] of end stage renal disease {ESRD}.² It is more common in black females. We did a cross sectional study of 25 cases of lupus nephropathy at the department of medicine

P.G.M.I. Hayat Abad Medical Complex from 1998-2001, to find out the age, sex distribution, type of renal histology, extent of renal damage and the degree of proteinuria.

MATERIAL AND METHODS

History, physical examination and baseline tests were done for all cases that were suspected to have lupus nephropathy. Antinuclear factor {ANF}, anti double stranded DNA [Anti ds DNA], 24 hours urinary protein estimation and coagulation screen was performed on all cases. Exclusion criteria were a single kidney, hydronephrosis, coagulopathy that could not be corrected and age less than 10 years old. An informed written consent was obtained from all patients undergoing a kidney biopsy. A kidney biopsy was performed under local anaesthesia and ultrasound guidance via monopty needle (Bard Ltd U.K). All biopsies were reported by same laboratory.

RESULTS

The total No of cases was 25. Females were 92% and males 8% (Table 1). Majority of the patients were young, having mean and median age 32.12 and 34 years respectively (S.D±3.38) [Table 2]. Majority of the patients

SEX DISTRIBUTION. N=25

Male	2 [8%]
Female	23 [92%]

TABLE - 1

AGE DISTRIBUTION. N=25

10-19 years	1 [4%]
20-29 years	8 [32%]
30-39 years	13 [52%]
40-60 years	3 [12%]

TABLE - 2

24 HOURS URINARY PROTEIN. N=25

<3 grams per 24 hours	18 [72%]
>3 grams per 24 hours	7 [28%]

TABLE - 3

SERUM CREATININE. N=25

0.5-1mg/dl	2 [8%]
1.1-5mg/dl	16 [64%]
5.1-9.9mg/dl	5 [20%]
>10mg/dl	2 [8%]

TABLE - 4

(72%) had proteinuria less than 3 grams per 24 hours and the mean proteinuria was 2.19 grams per 24 hours (S.D±1.27) [Table 3]. 64% patients had mild renal impairment and only 8% cases had severe renal failure. The mean of serum creatinine level was 4.6 mg/dl (S.D±2.92) [Table 4]. The commonest histological lesion was W.H.O. Grade 3 (40%) and only 20% cases had W.H.O. Grade 5 glomerulopathy (Table 5).

HISTOLOGICAL GRADING. N=25

W.H.O. Grade 0	0 [0%]
W.H.O. Grade 1	5 [20%]
W.H.O. Grade 2	2 [8%]
W.H.O. Grade 3	10 [40%]
W.H.O. Grade 4	3 [12%]
W.H.O. Grade 5	5 [20%]

TABLE - 5

DISCUSSION

S.L.E. is a multisystem disease and is encountered worldwide.³ No age and sex is immune but it commonly affects women of childbearing age. It is particularly more common in American Black females and has got worse prognosis in Negroes. There is high incidence of lupus in Klinefelter's syndrome.⁴ Renal involvement is fairly common in S.L.E. (30-70%). In 25% cases

renal involvement may be the presenting feature of S.L.E. Male to female ratio is 1: 9 but renal involvement is equal in both sexes. The peak age of incidence is 20-40 years.⁵ We had 52% cases in the age range of 30-39 years and 32% cases 20-29 years old. 92% cases were females in our series, which is not different from the international figures. Renal prognosis correlates with renal histology, race, gender and some other co-morbid conditions e.g. hypertension etc.⁶ The titer of anti ds DNA does not correlate with renal prognosis.⁷ For uniform standardization W.H.O. grading has been adopted internationally.⁸ W.H.O. grade 4 lesion is the most common and has got the worst prognosis. In contrast to the western figures, we had W.H.O. grade 3 lesion more common (40%). W.H.O. grade 4 was only 12%. A large range of lesion can be found and typically more than one lesion is found in the same biopsy. This difference is probably due to small sample size, high mortality of this group in the periphery and due to reluctance of the physician to biopsy a very seriously ill patient. Drugs are freely available in our country but we did not have a single of drug induced lupus nephropathy, as systemic involvement is not a feature of drug-induced lupus.⁹ There was no mortality related to the procedure and we did not encounter significant morbidity e.g. haematuria, haematoma etc. The majority of patients had mild renal impairment (64%). This figure has got important therapeutic implication, as combination of steroid and cyclophosphamide is superior to steroid alone in lupus nephropathy.¹⁰ Most of the patients had non-nephrotic range proteinuria. There is progressive reduction in the disease activity both clinically and serologically.^{11,12} A small group of patients, there is progressive loss of glomerular function without active urinary sediments. They are positive for anti-phospholipid antibodies and have got small glomerular thrombi rather than glomer-lonehritis.^{12,13} They respond to

anticoagulants rather than steroid or cytotoxic.¹⁴

CONCLUSION

Renal involvement is fairly common in SLE. The disease as compared to male more commonly affects females. It has got worse prognosis in black female. The peak age of occurrence is 20-40 years old. The commonest mode of renal involvement is haematuria and proteinuria. Therefore dipstick examination of urine should be our routine in suspected cases of S.L.E. followed by a kidney biopsy to assess the degree of renal involvement. It affects the bread earning population of our community. Further large-scale community based studies are needed to study the epidemiology of lupus nephropathy.

REFERENCES

1. Johnson AE, Gordon C. Undiagnosed SLE in the community. *Lancet* 1996; 346: 367.
2. Pontacelli C, Banfi G. In *Oxford Text Book Of Clinical Nephrology*, Vol 1, Oxford University Press.
3. Fessall W J. Epidemiology of S.L.E. *Rheumatic Disease Clinics of North America* 1998; 14:15.
4. Snaith ML and Isenberg DA. *Systemic Lupus Erythematosus*, Oxford Text Book of medicine Oxford University Press 3rd edition 18.11.3.
5. Tan EM, Cohen AS, Rothfield NEFF, et al. The 1982 Revised Criteria for the classification of SLE. *Arthritis and Rheumatism* 1982; 25:1271.
6. Lathia RG. (ed.). *S.L.E.* Churchill Livingstone, Edinbrough. 1998.
7. Rose and Black's. *Clinical Problems In Nephrology* 1999; 31:3 40.

8. Hess Endure induced Lupus's Engle J Med 1999; 318: 1460.
9. Appel Get al: Renal involvement in S.L.E. Medicine (Baltimore) 57:371; 1978.
10. Cockwell P, Savage C. Systemic Lupus Erythematosus. B.M.J. 1997; 314.
11. Cheigh J, et al. S L E. in patients with E.S.R.D. Am J Med 1999; 16:189.
12. Mills J. Systemic Lupus Erythematosus. N Eng J Med 2000; 330:1871.
13. Hughes, G RV. The Antiphospholipid Syndrome. Ten Years On. Lancet. 1993; 342: 341.

Address for Correspondence:

Dr. Noor Mohammad,
Department of Medicine,
Hayatabad Medical Complex,
Peshawar.