

MANAGEMENT OF SEVERE LUPUS NEPHRITIS. COMPARISON OF LOW DOSE MYCOPHENOLATE AND INTRAVENOUS PULSE CYCLOPHOSPHAMIDE



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Abstract number MP193 CATEGORY – I Glomerulonephritis

Introduction^{1,2}

- Systemic lupus erythematosus(SLE) affects kidney in 40%. Classes 3 and 4 lupus nephritis(LN) are associated with worse outcomes
- LN Class 3 and 4 require pulse cyclophosphamide or oral Mycophenolate(MMF)
- Effectiveness of lower doses of MMF needs to be tested in severe LN

Objective

To compare low dose MMF with intravenous pulse cyclophosphamide in treatment of severe LN.

Methodology

Study Design: Prospective Observational

Study duration Four years

Study site: Department of Nephrology, Kasturba Hospital, Manipal

Study subjects:

Inclusion criteria:

- Newly diagnosed LN Class 3 or 4 with minimum follow up of six months receiving either of IV pulse cyclophosphamide or MMF two grams / day

Exclusion criteria:

- LN classes other than 3 or 4
- Patients who received other therapies or switched to other treatment modalities.

Data Collection:

- Clinical, demographic, lab data from case records

Outcomes:

- Complete response Return of renal function to normal and proteinuria less than 500 mg/day
- Partial response Improvement in kidney function or 50 % decline in proteinuria and less than 3 grams/day
- **Data Analysis:** On SPSS version 15 with p value less than 0.05 considered significant.

Results

Table 1 :

Characteristics	Number 107
Included	54
Mean Age (years)	27
Female: Male	54:4
Class 3	18 (31 %)
Class 4	40 (69%)
Follow up (median months)	15
AVERAGE DOSE(RANGE) SIX MONTHS	
Pulse cyclophosphamide	6170.8 grams (1600 to 10700)
MMF	268.6 grams (240 to 360)

TABLE 2 DEMOGRAPHY,HISTOPATHOLOGY,ADVERSE EFFECTS,TREATMENT RESPONSE

CHARACTERISTIC	TOTAL	PULSE CYCLOPHOSPHAMIDE	MYCOPHENOLATE	P VALUE
NUMBER	58	36	22	
FEMALE/MALE	54:4	32:4	22:0	
ENTRY eGFR ml/min/m ² *	93.2 (57.3,120.9)	82(36.5,126.25)	98.5(79,123.7)	0.198
FOLLOW UP eGFR ml/min/m ² *	109 (83.5,128.7)	108 (80, 124)	113 (88.5, 145.7)	0.11
24 HOUR URINE PROTEIN GRAMS/DAY*	1452 (636,2860)	2042 (747,3157)	843 (567,2105)	0.59
HISTOPATHOLOGY NUMBER (%)				
CLASS 3	18(31)	9(25)	9(40.9)	
CLASS 4	40(69)	27(75)	13(59.1)	
ACTIVITY INDEX *	5.5(3.8)	6(3.8)	5(3.8)	
CHRONICITY INDEX *	0(0,2)	0(0,2)	0(0,2.25)	0.58
TREATMENT RESPONSE NUMBER(%)				
PARTIAL REMISSION	7(12.5)	4(11.4)	3(14.3)	0.754
COMPLETE REMISSION	44(78.6)	29(82.9)	15(71.4)	0.313
OVERALL REMISSION	51(91.1)	33(94.3)	18(83.7)	0.276
ADVERSE EFFECTS NUMBER(%)				
TOTAL	47(81)	28(77)	19(86)	
LEUCOPENIA	13(22.4)	9(25)	4(18.2)	0.546
LOWER RESPIRATORY INFECTION	5(8.6)	2(5.6)	3(13.6)	
SEPSIS	8(13.8)	4(11.1)	4(18.2)	0.449
SKIN INFECTION	7(12.1)	4(11.1)	3(13.6)	
OTHER SIDE EFFECTS	13(22)	8(22)	5(22)	

*MEDIAN AND INTERQUARTILE RANGE

Conclusion

In severe lupus nephritis overall treatment response is seen in 91%, low dose Mycophenolate is equivalent to intravenous pulse Cyclophosphamide in achieving remission and equally tolerated.

References

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2. Appel GB, Contreras G, Dooley MA, Ginzler E M, Isenberg D , Jayne D et al Mycophenolate Mofetil *versus* Cyclophosphamide for Induction Treatment of Lupus Nephritis. JASN May 2009;20:1105 – 1112.

