except for two died of miliary tuberculosis. A history of high dose steroid or cytotoxic drugs and any organ involvement were not related to the development of tuberculosis. SLE-associated tuberculosis was developed 48.13 $\pm$ 35.14 months after their initial symptom and 20.87 $\pm$ 23.53 months after clinical diagnosis.

Conclusion Taken together characteristics of tuberculosis in SLE patients are; 1) a higher incidence rate, 2) more frequent extrapulmonary involvements, 3) more extensive pulmonary involvements 4) a higher relapse rate (Odds ratio 4.14). Thus, the contributory role of M. tuberculosis infection in the morbidity and mortality of patients with SLE must be emphasised, especially in areas endemic for M. tuberculosis.

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FRI0099 CAUSES OF DEATH IN 56 PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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Background

Objectives To describe the causes of death in a Chinese lupus cohort with SLE.

Methods We examined mortality in a cohort of 427 Chinese patients with SLE seen between 1985–1997. During a mean $\pm$ SD of 5.0 $\pm$ 3.8 years of follow-up, 56 patients died. The causes of death were determined.

Results The mean $\pm$ SD disease duration from diagnosis to last visit or death for the 427 patients was 6.7 $\pm$ 5.4 years, with a duration of follow-up of 5.0 $\pm$ 3.8 years. 53 females and 3 males died. The age at death was 35.3 $\pm$ 11.3 years. Among those who died, the duration of disease was 5.2 $\pm$ 4.8 years with a follow-up of 3.5 $\pm$ 3.3 years. In comparison, patients last seen alive had a longer disease duration of 6.9 $\pm$ 5.4 years and a longer follow-up of 5.3 $\pm$ 3.9 years. Infection and active SLE were the two leading causes of death, occurring in 17 patients (31%) in both instances. The clinical manifestations amongst the 17 patients with active SLE were as follows: seizure in 2, cerebritis in 1, cardiac tamponade in 2, pneumonitis in 2, pulmonary haemorrhage in 2, pulmonary hypertension in 2, nephritis in 2, vasculitis in 2, pancreatitis in 2. In 12 patients, SLE was a contributing factor of death. Thus, active SLE was present in over half of the cases (28 patients) at the time of deaths. The most common type of infection was pneumonia (41%) followed by bacteremias (35.3%). The most prevalent infections were bacterial infections (23.5%), followed by mixed infections (17.6%), fungal (17.6%) and mycobacterium infections (17.6%). Out of the 17 patients in whom the primary cause of death was due to infection, 9 had active SLE at the time of death.

Conclusion The majority of patients at the time of death had active SLE. Although the percentage of patients dying from infections and active SLE were the same, active SLE was present in half of those with infections suggesting that active disease remains the most important factor in mortality in SLE.

FRI0100 PREDNISONE (PRED), AZATHIOPRINE (AZA) AND CYCLOSPORIN A (CSA) COMBINATION IS EFFECTIVE FOR MEMBRANOUS LUPUS NEPHRITIS (MNL)

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Background

Objectives

Methods 10 consecutive female patients with mean age 35 $\pm$ 10 years and the mean disease duration prior to the onset of the index episode of nephritis was 86 $\pm$ 85 months with pure MLN were treated with prednisolone, AZA and CSA for at least 12 months. CSA was tapered in stable patients by 18–24 months. All patients were followed for 3 years.

Results At 1 year, 4 patients achieved complete response as defined as serum albumin over 35 g/L, urinary protein less than 0.3 g/day and serum creatinine less than 30% above the baseline value and 3 achieved partial response. One patient developed agranulocytosis and alopecia totalis, another patient withdrawn at 6 months because of inefficacy, and one patient had no response at 1 year. For the responders, serum albumin increased from 22.8 $\pm$ 5.1 to 34.4 $\pm$ 2.7 mg/l, accompanied by reduction in urine protein from 5.6 $\pm$ 3.2 to 0.8 $\pm$ 0.8 g/day, while serum creatinine remained unchanged. Significant increase in serum albumin and sustained reduction in urine protein were noted from 3 months onward. Creatinine clearance showed significant improvement by the end of 1 year. Serum C3 normalised in 3 out of 6 patients, whereas anti – ds DNA antibodies became negative in 5 out of 6 patients. The mean prednisone dose reduced from 26.8 $\pm$ 5.5 to 5.7 $\pm$ 1.9 mg/day, the mean dose of CSA also reduced from 235.7 $\pm$ 24.4 to 132.1 $\pm$ 49.4 mg/day at the end of 1 year.

Side effects included hypertension requiring additional anti-hypertensives in 4 patients, minor infections in 2 patients and leucopenia in 1 patient. CSA was tapered by the end of second year in 4 patients. At 3 years, 6 patients had sustained response, 2 patients developed renal relapse at 18 and 20 months. One patient reached end stage renal failure at 27 months.

Conclusion Combination therapy using prednisolone, AZA and CSA is well tolerated and is efficacious in the management of MLN, and may prevent relapse in patients after stopping CSA.

FRI0101 ANTIRIBOSOMAL-P PROTEIN ANTIBODIES IN SYSTEMIC LUPUS ERYTHEMATOSUS PATIENTS

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Background Autoantibodies to ribosomal-P protein (anti-P antibodies) are predominantly found in sera of patients with systemic lupus erythematosus (SLE) and have been correlated with neuropsychiatric lupus in some but not all studies.¹ The

frequency of anti-P antibodies in SLE population can vary from 6% to 36% in different ethnic groups.²

Objectives To clarify the frequency of presence of anti-P antibodies in patients with SLE.

Methods The investigated group constituted of 36 SLE patients (age 21–52 years, SLE duration 0.5–16 years), sera from 5 patients with discoid lupus and 48 RA patients were tested too. Sera of 20 normal healthy persons were used as normal controls. Anti-P antibodies were measured by immunoblot (INNOTMANA, Innogenetics, Belgium) and ELISA (ABP Diagnostics Inc., Canada) using commercial kits.

Results Anti-P antibodies were found in 5/36 (13.9%) SEL patients, using immunoblot, and in 7/36 (19.4%) SEL patients, using ELISA, and in 1/48 RA patient (2.1%) using ELISA. None of the sera of the other RA patients as well as discoid patients and normal persons was found to be positive for anti-P antibodies. Anti-P antibodies were occurred together with ANA, dsDNA and histone antibodies ($p < 0.0001$). No clinical differences were found in patients with anti-P antibodies, belonging anti-SmB and anti-SmD positive and negative groups. Among the investigated patients neurological disorders were seen only in two patients, while no studied patient had lupus psychosis. One patient had encephalomeningitis (positive anti-P antibodies by both methods) the other had APS with thrombosis (positive anti-P antibodies by ELISA). In our study all SLE patients with anti-P antibodies had active lupus nephritis ($p < 0.0001$), LE cells ($p < 0.0001$) and cardiac disorders ($p > 0.05$). The majority (6 from 7 patients) of these patients had polyarthritis. None of the patients with SLE duration less than 3 years had anti-P antibodies. Disease duration was longer in patients positive for anti-P antibodies (4.30 ± 5.03 and 10.10 ± 6.05 years, accordingly; $p < 0.043$).

Conclusion The clinical significance of presence of anti-P antibodies in SLE is limited. Presence of these antibodies is associated with acute lupus nephritis; the antibodies are found in patients with long disease duration.

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FRI0102 THE OUTCOME OF LUPUS NEPHRITIS IN MALAYSIAN PATIENTS WITH SYSTEMIC LUPUS ERYTHEMATOSUS

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Background Renal disease is a common manifestation of systemic lupus erythematosus (SLE). However, there continues to be debate about the best therapeutic option(s).

Objectives This objective of this study was to look at the response rate and complications of previous treatment(s) given for their lupus nephritis.

Methods A retrospective cross-sectional survey of the case notes of SLE patients under current follow-up at University Hospital, Kuala Lumpur, from June to August 2000 was undertaken.

Results A total of 103 patients (97F, 6M) were studied of whom 48 (46.6%) had renal involvement at presentation. The WHO classification of the first renal biopsy was: class I – 6(5.8%), class II – 10(9.7%), class III – 4(3.9%), class IV – 58(56.3%), class V

– 18(17.5%). We present the results for class IV disease (Table 1). Six patients had prednisolone only of whom 2 went into remission, 3 patients had IV Cyclophosphamide (CPM) followed by oral CPM and all went into remission. Drug-related complications were noted in 63 (61.2%) patients. Prednisolone, oral CPM, IV CPM and Azathioprine (Aza) were responsible for 36.5%, 28.6%, 17.5% and 12.7% of complications respectively.

Abstract FRI0102 Table 1

	Aza only n = 14	Oral CPM n = 12	IV CPM n = 11	Oral CPM + Aza n = 8	IV CPM + Aza n = 4
Median duration Rx	11.54	9.04	17.13	16.59	31.38
Median remission	12.12	15.01	15.25	13.45	14.04
Percentage remission	42.86	83.33	90.91	75.0	75.0

Treatment Details for Class IV Lupus Nephritis.

Conclusion In this cohort of class IV lupus nephritis patients, IV CPM, closely followed by oral CPM, are the agents of choice in inducing remission, but this is associated with a higher complication rate than Aza alone.

FRI0103 THE ORAL INVOLVEMENT IN SCLERODERMA (SYSTEMIC SCLEROSIS)

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Background Oral manifestations are a common feature of systemic sclerosis (scleroderma).

Objectives The aim of this study was to find the frequency, characteristics, and the severity of oral involvement in Iranian patients with scleroderma, seen in the Scleroderma Unit, Rheumatology Research Centre.

Methods Cases were selected consecutively according to the American College of Rheumatology criteria.

A complete oral examination was performed for all patients. Their data were compared with a control group by chi square test and fisher exact test.

Results Forty scleroderma (Scl) patients (31 limited scleroderma, 9 diffuse form) and 40 healthy subjects (age and sex matched) were evaluated.

The mean age in the Scl group was $40.83 (\pm 10.02 \text{ SD})$ and in the control group $40.30 (+ 10.43 \text{ SD})$ years.

The mean duration of the disease was $8.3 (\pm 8.94 \text{ SD})$ years.

The following symptoms were seen more frequently in Scl than in the control group: reduced vertical lip distance ($40.25 \text{ mm} \pm 7.26 \text{ SD}$ versus $49.63 \text{ mm} \pm 7.38 \text{ SD}$, $p < 0.0005$), Xerostomy (subjective, %35 versus %75, $P = 0.003$), Raynaud's of oral region (27.5% vs. 5%, $p < 0.0001$). The number of lost teeth (due to mobility or decays) was $9.59 \pm 9.73 \text{ SD}$ versus $4.3 \pm 6.54 \text{ SD}$ ($p = 0.006$). Stiffness and depapillation of the tongue was 35% vs. 0% (each sign) ($p < 0.0005$). Gingival Inflammation was 77.5% vs. 42.5% ($p = 0.001$). The atrophy of gingival surface (thin epithelium) was 70% vs. 2.5% ($p < 0.0005$). Gingival stiffness was 30% vs. 0% ($p < 0.0005$). Flattening and disappearance of the mucosal folds in the ruga region (on the hard