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Original Article

Comparing Demographics, Clinical Presentation, Treatments and Outcome Between Systemic Lupus Erythematosus Patients Treated in a Public and Private Health System in Santa Fe, Argentina☆

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ABSTRACT

The study includes 159 SLE patients seen between 1987 and 2011, of whom 116 were treated in the public health system and 43 in private practice. In the comparison between both groups, it was shown that patients in the public health system were younger at first consultation and at the onset of SLE, and that the mean duration of their disease prior to nephropathy was statistically significantly shorter. They also presented with more SLE activity (measured by Systemic Lupus Erythematosus Activity Index) such as fever, lower levels of C4, and elevated erythrocyte sedimentation rate. Although cyclophosphamide was administered more frequently to patients in the public health system group, there were no statistically significant differences in renal histological findings. A second renal biopsy was performed on 20 patients due to the presence of persistent proteinuria, peripheral edema, urinary casts, or because of previous defective renal specimens. The overall 10-year survival of the patients in the public health system was 78% compared to a survival rate of 91% for the patients in private practices. When survival was evaluated at 15 years, however, no differences were found (log rank test: 0.65). Patients from both public and private groups attended medical specialist practices and received early diagnoses and close follow-ups.

Comparación de datos demográficos, presentación clínica, tratamiento y desenlace de pacientes con lupus eritematoso sistémico tratados en un centro público y otro privado de salud en Santa Fe, Argentina

Palabras clave:
Lupus eritematoso sistémico
Sistemas de salud
Desenlace en lupus eritematoso sistémico
Sobrevida en lupus eritematoso sistémico

RESUMEN

Se identificó a 159 pacientes con lupus eritematoso sistémico (LES) vistos entre 1987 y 2011. Ciento dieciséis fueron tratados en el sistema público de salud y 43 en el sistema privado. Ambos grupos fueron comparados, observando que los primeros tenían menor edad al momento de la primera consulta y al inicio del LES y menor duración de la enfermedad al momento de producirse la nefropatía de manera estadísticamente significativa. También mostraron mayor actividad del LES (medido por Systemic Lupus Erythematosus Activity Index), con presencia de fiebre, menor nivel de C4 y elevado valor de eritrosedimentación globular. La ciclofosfamida fue administrada con mayor frecuencia a los pacientes del sistema público, si bien no hubo diferencias en los hallazgos histológicos renales. En 20 pacientes se realizó una segunda biopsia renal debido a la presencia de proteinuria persistente, edema periférico y cilindros en orina, o por tener una mala muestra renal previa. La supervivencia a 10 años fue del 78% en los pacientes atendidos en el sistema público vs el 91% de aquellos atendidos en el sistema privado. No se hallaron diferencias estadísticamente significativas cuando la sobrevida se evaluó a 15 años (log rank test: 0,65). Ambos grupos de pacientes (tanto los del sistema público como los del sector privado) fueron atendidos por especialistas, quienes realizaron un diagnóstico temprano de la enfermedad, con un cuidadoso seguimiento.

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Introduction

Recent studies on systemic lupus erythematosus (SLE) who have placed special emphasis on trends in mortality and have reported a more favorable outcome, perhaps due to better knowledge of the disease, a more expert handling of it and the rational use of treatments. It is well documented that many changes in SLE are due to factors that influence patients, such as ethnicity, gender, education, treatment compliance and socioeconomic characteristics. Mortality exceeds 2 or 3 times the average for the general population and even the more favorable mortality trends, when present, cannot always be applied to some economically disadvantaged groups both in under developed as well as in developed countries.[1]

There is very little literature comparing the clinical presentation, laboratory data, treatments administered and survival of lupus patients, treated at a public hospital or a private hospital. Due to the substantial difference observed between the two, the objective of this study is to describe and compare the demographic characteristics, clinical manifestations, laboratory results, treatment, renal involvement and outcome of patients with SLE. These patients studied were selected from the Rheumatology Department of a public health system and a private practice rheumatology center in Santa Fe, Argentina.

The public health system in Santa Fe is subsidized by the provincial government. Patients can choose their doctors, where rheumatologists act as primary physicians. In turn, the public health system provides the patient possibilities for additional studies and pharmacological and non-pharmacological treatment (physiotherapy, physical therapy, etc.). The patient who chooses the public health system usually does not have health insurance. By contrast, the patient spontaneously consulting a private practice usually has health insurance or pays for medical attention. Health insurance will cover (partially or completely) the costs of ancillary studies (laboratory, imaging, etc.) and non-pharmacological and pharmacological treatment.

The objective was to compare the clinical presentation, laboratory data, treatments administered in the population and survival of lupus patients treated at a public hospital with a private hospital.

Materials and Methods

An observational, retrospective and transversal study was performed, reviewing medical records of 10,750 Rheumatology Service, Hospital JM Cullen (public health system) and the Center for Rheumatology (private), identifying 159 patients with SLE (1982 ACR criteria)[2] from 1987 to March 2011.Patients in both sectors were both from the inpatient and outpatient clinic, of similar proportions, regularly seen by the same team of doctors every 3 months.

Demographic variables such as gender, mean age at the time of the consultation and the diagnosis of SLE (years); SLE duration and follow-up time (in months); SLE activity (for Systemic Lupus Erythematosus Disease Activity Index [SLEDAI],[3] considering activity as a score <1); clinical manifestations; laboratory data, urea and serum creatinine, proteinuria, blood count, serological parameters (FAN by HeP-2, nDNA [Crithidia Lucilliae]), decreased C3 and C4, the presence of anti-Ro and La, Sm, RNPn, anticardiolipin IgG and IgM, and lupus inhibitor were evaluated.

Public sector patients who had renal involvement were compared to those treated in private practice, analyzing renal biopsy histology (classified according to the World Health Organization, as amended in 1982)[4] and evaluated by the same pathologist, comparing also renal function at the end of treatment, the renal outcome after treatment (according to whether renal function was normal, the presence of persistent proteinuria or ESRD, defined as the need for dialysis, transplantation or a diagnosis of chronic renal failure, defined as the presence of creatinine <1.5 mg/dl on 2 opportunities separated by at least 3 months).

Use of antimalarials, steroids and immunosuppressants was recorded in patients and these identified as alive, dead (consigning cause of death) or lost to follow up, considering as such a patient who did not attend for a visit for one consecutive year to the study date.

Both public hospital and private practice patients were attended by the same group of physicians.

The study was approved by the Ethics Committee of the Hospital. No informed consent was required because of the anonymous nature of the study.

Statistical Methods

Categorical data was compared using the chi-square and Fisher's exact test. Continuous variables were evaluated using Student's *t* for large samples of similar variance and small samples were evaluated using the non-parametric Mann–Whitney test. Results are reported as ±standard deviations. Survival analysis was performed using the Kaplan–Meier curve. Survival distributions were compared using the log-rank test. A significance of α =0.05 was considered. The statistical analysis was done using SPSS18.0 software.

Results

159 patients with SLE who fulfilled the 1982 ACR criteria were analyzed; 116 of them were treated in the public health system and 43 in private practice. When comparing both groups, we noted that the first had a lower age at first visit (28 vs 36 years, *P*=.001), younger age at onset of SLE (26 vs 32 years, *P*=.001) and a shorter evolution of SLE until the appearance of nephropathy in a statistically significantly manner (18 vs 41 months, *P*=.03). Furthermore, also during the first visit, we saw increased SLE activity demonstrated by SLEDAI, with fever, low C4 and elevated erythrocyte sedimentation value (ESR). There were no statistically significant differences between groups in relation to gender, the mean time from development of lupus to the first visit (Table 1) and

Table 1
Clinical, Laboratory and Disease Activity in the First Patient Visit.

1. visit	Public system *n*=116	Private system *n*=43	*P*
SLEDAI (average)	9.15	5.56	.000
Alopecia	22	8.	.886
Fever	39		.025
Arthritis	63	20	.70
Malar Rash	55	1	.26
Mucosal alterations	14		.16
Serositis	25	5	.21
Vasculitis		0	.81
Renal disorders	62	18	.19
Neurological disorders		1	.42
Hemolytic Anemia	18		.078
Leukopenia	36	13	.86
Thrombocytopenia	1	0	
Lymphopenia	40	1	.78
FAN (Hep-2)	68	26	.67
Sm	15/67	6/40	.27
RNP	14/64	4/40	.11
Anti-Ro	1	9	.31
Anti-La		4	.43
Anti-nDNA	29	9	.63
Decreased C3	49	1	.38
Decreased C4	644	1	.013
ESR (mm/1 h), average	67	54	.018
Anticardiolipin	9		.35