SEROLOGICAL AUTOIMMUNE PROFILE OF SYSTEMIC LUPUS ERYTHEMATOSUS IN DEEP AND NON-DEEP ENDOMETRIOSIS PATIENTS.

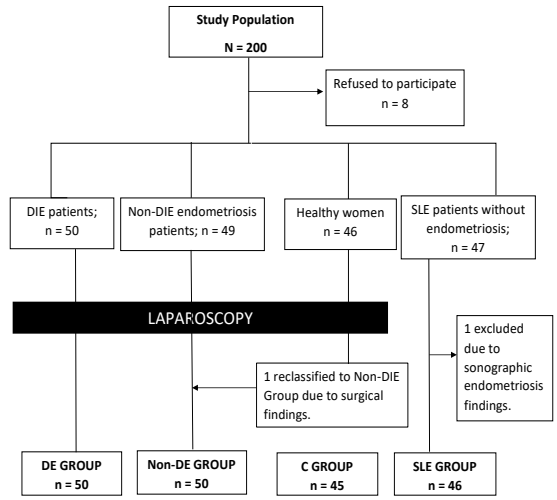
M.A. Martínez-Zamora; JL. Coloma; D. Tàssies; J.C. Reverter; G. Espinosa; R. Cervera; F. Carmona.
Department of Gynecology. Hospital Clínic of Barcelona. Barcelona, Spain.

Introduction and objective:

Several studies have reported a high prevalence of autoimmune diseases such as systemic lupus erythematosus (SLE) in endometriosis patients. The aim of this study was to evaluate SLE autoimmune antibody profile in patients with deep (DE) and non-deep endometriosis (Non-DE).

Materials and methods:

Four groups of premenopausal patients were evaluated: patients with DE (n=50); patients with ovarian endometriomas (Non-DE; n=50); healthy patients without endometriosis (C group; n=45); and SLE patients without endometriosis (SLE group; N=46). Blood samples were obtained and the standard SLE autoimmune profile was evaluated in all patients. Pain symptoms related to endometriosis and clinical SLE manifestations were also recorded. Flow chart of the inclusion and exclusion of patients in the four groups analyzed:



Results:

	DE group n = 50	Non-DE group n = 50	C group n = 45	SLE group n=46	p-value
Age (years)	35.4 ± 5.8	36.1 ± 5.3	34.98± 6.3	35.6 ± 5.9	NS
BMI (Kg/m^2)	23.7 ± 3.4	23.2 ± 3.7	24.1 ± 4.0	24.2 ± 3.4	NS
Current smoker	7 (14)	6 (12)	5 (11.1)	6 (13.04)	NS
Live Births	19 (38)[a]	37 (74)	35 (77,8)	35 (76.1)	<0.0001[a]
Pain symptoms					<0.0001[a]
Dysmenorrhea (NRS≥7)/	49 (98) [a]/	22 (44)/	0 (0)/	0 (0)/	
Dysmenorrhea NRS score	8.8 ± 1.3 [a]	6.5 ± 2.5	2.7 ± 1.12	2.3±1.14	
Dyspareunia (NRS≥7)/	29 (58)[a]/	3 (6)/	0 (0)/	0 (0)/	
Dyspareunia NRS score	5.0 ± 1.7 [a]	2.2 ± 1.3	0.4±0.1	0±0	
Chronic pelvic pain (NRS≥7)/	17 (34)[a]/	2 (4)/	0 (0)/	0 (0)/	
Chronic pelvic pain NRS score	5.3 ± 0.6 [a]	1.9 ± 0.8	0 .5± 0.4	0 ± 0	
Arthralgia, N (%)	28 (56)[b]	14 (28)	12 (26.7)	34(73.9)[c]	<0.001[b,c]
Asthenia, N (%)	19 (38)[b]	9 (18)	6 (13.3)	21 (45.6)[c]	<0.01[b];<0.001[c]
Previous thrombosis, N (%)	1 (2)	0 (0)	0 (0)	6 (13.04)[d]	<0.001[d]
Chronic skin disorders, N (%)	3 (6)	2 (4)	1 (2.2)	18 (39.13)[d]	<0.0001[d]

Table 1. Baseline clinical and demographic data of the four study groups BMI, body mass index; DE, deep endometriosis; C, control; SLE, systemic lupus erythematosus; SD, standard deviation; NRS, numerical rating scale. NRS ranges from 0 to 10. Results are expressed as N(%) or mean±SD. [a] Differences between the DE group and all the other groups. [b] Differences between the DE group and the Non-DE and C groups. [c] Differences between the SLE group and the Non-DE and C groups. [d] Differences between the SLE group and all the other groups.

	DE group n = 50	Non-DE group n = 50	C group n = 45	SLE group n=46	p-value
RF	0 (0%)	0 (0%)	0 (0%)	5 (10.8%)	*<0.005
Low C3 levels	4 (8%)	3 (6%)	2 (4.4%)	14 (30.4%)	*<0.001
Low C4 levels	2 (2,5%)	0 (0%)	0 (0%)	3 (6.5%)	*<0.05
Low CH50 levels	5 (10%)	7 (14%)	4 (8.9%)	11 (23.9%)	NS
Anti-SS-A/Ro	0 (0%)	1 (2,9%)	0 (0%)	6 (13.4%)	*<0.005
Anti-SS-B/La	0 (0%)	0 (0%)	0 (0%)	1 (2.2%)	NS
Lupus anticoagulant	5 (10%)	0 (0%)	1 (2.2%)	5 (11,4%)	NS
aCL-M +	0 (0%)	1 (2.9%)	0 (0%)	2 (4.3%)	NS
aCL-G +	1 (2%)	3 (6%)	0 (0%)	9(19.6%)	*<0.005
Anti-dsDNA +	3 (6%)	0 (0%)	0 (0%)	22 (47.8%)	*<0.001
Anti U1-RNP +	0 (0%)	0 (0%)	0 (0%)	13 (28.3%)	*<0.001
Anti Sm +	0 (0%)	0 (0%)	0 (0%)	13 (28.3%)	*<0.001
ANA (IFI Hep2 ≥ 1:80	10 (20%)[a,b]	2 (4%)	1(2.2%)	24 (52.2%)[c]	[a]<0.02; [b]<0.008 [c]<0.001

Table 2. Serologic results of the four study groups.
Variables are expressed as n (%) DE: deep endometriosis; C: control; SLE: systemic lupus erythematosus; NS: not significant. RF (Rheumatoid factor) > 15U; Low C3 levels < 0.82 g/L; Low C4 Levels: < 0.11 g/L; Low CH50 levels: <34U/mL; Anti-dsDNA + > 10 UI/mL; ANA IFI Hep 2 + ≥ 1:80Anti-SS-A/Ro; anti-SS-B/La ; Lupus anticoagulant; aCL: anticardiolipin antibodies; Anti U1-RNP; Anti Sm: qualitative values;
*Shows statistically significant differences of the SLE group compared with all the other study groups. [a]Differences between the DE group and the Non-DE group. [b]Differences between the DE group and the C group. [c]Differences between the SLE group and the C and Non-DE groups.

The DE group presented a statistically significant higher proportion of patients with antinuclear antibodies (ANA) (20%) compared to the Non-DE group (4%) and C group (2.2%). Levels of complement were more frequently lower among DE and Non-DE patients although differences did not reach statistical significance. Similarly, anti-dsDNA antibodies and anticoagulant lupus were positive in more patients of the DE group but did not reach statistical significance. The DE group complained of more arthralgia and asthenia compared to the Non-DE and C groups.

Conclusion:

The results of this study showed higher positivity of ANA and greater arthralgia and asthenia in patients with DE compared with Non-DE patients and healthy controls, suggesting they may have a higher susceptibility to autoimmune diseases and present with more generalized pain.