



POSTER PRESENTATION

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PreS-FINAL-2352: Apoptosis profile in patients with juvenile-onset systemic lupus erythematosus

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Introduction

Apoptosis related proteins have been involved in immune dysregulation and development of systemic lupus erythematosus (SLE).

Objectives

To assess sFas, sFasL, sTRAIL and sBcl-2 in sera and to evaluate Fas and Bcl-2 expressions in peripheral monocytes, T and B lymphocytes from juvenile-onset SLE (JSLE) and to determine relationships with disease activity.

Methods

Forty-three JSLE patients (revised ACR criteria, mean age = 14.3 yrs, 36F:7M), and 35 age and gender matched healthy controls were studied; 30 JSLE had SLEDAI score³ 4, reflected active disease. Soluble molecules were measured by commercial ELISA kits. Lymphocytes and monocytes were stained with specific moAbs and analyzed by flow cytometry. Kruskal-Wallis test and Spearman's rank were employed and statistical significance considered p value < 0.05.

Results

JSLE sera had significantly increased sFas (188.1 ± 69.2 vs 133.2 ± 80.6 , pg/ml) and sTRAIL (691.3 ± 631.8 vs 346.6 ± 251.1 , pg/ml), decreased sFasL (0.08 ± 0.1 vs 0.36 ± 0.4 , ng/ml), and similar sBcl-2 (7.4 ± 8.6 vs 9.3 ± 9.6 , mg/ml) levels compared to healthy controls. SLEDAI score directly correlated with sFas ($r = 0.52$; $p = 0.001$). JSLE patients compared to controls had significantly increased Fas expression on CD3+ ($43.7 \pm 10.3\%$ vs $28.9 \pm 9.4\%$), CD4+ ($20.3 \pm 6.7\%$ vs $16.2 \pm 6.2\%$) and

CD8+ ($21.5 \pm 9.6\%$ vs $12.3 \pm 5.8\%$) T cells, and also on CD19+ B cells ($2.1 \pm 1.4\%$ vs $1.4 \pm 0.7\%$), whereas, it was decreased on CD14+ monocytes ($93.6 \pm 6.9\%$ vs $96.7 \pm 2.5\%$, $p = 0.01$). There was direct correlation between percentages of CD19+Fas+ cells and SLEDAI ($r = 0.38$, $p = 0.02$) and inverse correlation between percentages of CD14+Fas+ cells and SLEDAI ($r = -0.55$, $p = 0.01$). Mean fluorescence intensity (MFI) of Bcl-2-positive cells from JSLE patients was significantly increased in CD3+ (28.8 ± 8.4 vs 22.9 ± 4.2), CD4+ (28.6 ± 8.2 vs 22.9 ± 4.4) and CD8+ (29.4 ± 9.4 vs 22.8 ± 3.6) T cells, and also in CD19+ B cells (25.5 ± 9.6 vs 21.5 ± 3.6). Bcl-2 expression in CD14+ monocytes was lower in JSLE compared to controls ($25.2 \pm 18.2\%$ vs $34.5 \pm 16.6\%$, $p = 0.006$). Direct correlation between percentages of CD19+Bcl-2+ cells and SLEDAI ($r = 0.47$, $p = 0.04$) was shown.

Conclusion

JSLE patients showing high sFas and sTRAIL and low sFasL levels with Fas and Bcl-2 expressions increased on circulating T and B lymphocytes though decreased on monocytes are remarkable evidences of apoptosis role in the immune dysregulation observed. A possible role as a marker for lupus disease activity needs to be defined.

Disclosure of interest

None declared.

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