البحث الثاني

Diagnostic potential of metastasis-associated-lung-adenocarcinomatranscript- 1 (MALAT-1) and TNFa and hnRNPL related immunoregulatory long non-coding RNA (THRIL) in systemic lupus erythematosus patients: Relation to disease activity

ABSTRACT

Aim of the work: To determine expression levels and diagnostic value of metastasis-associated-lung-adenocarcinoma-transcript-1 (MALAT-1) and TNFa and hnRNPL related immunoregulatory long non-coding RNA (THRIL) in systemic lupus erythematosus (SLE), and to assess their role in the clinical characteristics of SLE and disease activity.

Patients and methods: Study included 40 patients with SLE and 30 matched controls. SLE Disease Activity Index (SLEDAI) score was assessed. Expression levels of MALAT-1 and THRIL were detected in the serum by using Real-time polymerase chain reaction and 2_DDCT method.

Results: Mean age of patients was 40.1 ± 9 years (25–55 years), they were 38 females and 2males and disease duration was 16.5 ± 3.9 years. Their mean SLEDAI was 5.8 ± 5.3. Expression levels of MALAT-1 and THRIL were found to be significantly upregulated in the serum of SLE patients compared with controls (set as 1). MALAT-1 fold change = 3.7 ± 3.8 ($p = 0.009$), and THRIL fold change = 3.6 ± 3.4 ($p = 0.026$). There were significant correlations between MALAT-1 with THRILL ($r = 0.44$, $p = 0.005$), proteinuria ($r = 0.45$, $p = 0.006$), erythrocyte sedimentation rate ($r = 0.43$, $p = 0.006$) and SLEDAI ($r = 0.36$, $p = 0.024$). No significant correlations were found between THRIL and study parameters. Sensitivity and specificity of MALAT-1 and THRIL were determined (sensitivity 67.5% and 65% respectively), (specificity 100% for both, total accuracy 80% and 81.4% respectively), and the combined effect of both increased sensitivity and total accuracy to 70% and 82.9% respectively. THRIL was a significant predictor for SLE disease ($p = 0.02$).

Conclusion: MALAT-1 and THRIL may be potential diagnostic biomarkers for SLE and only MALAT-1 may be valuable in detecting disease activity.

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