Article 6

Serum long noncoding RNAs FAS-AS1 & PVT1 are novel biomarkers for systemic lupus erythematous

Abstract:

Background: Systemic Lupus Erythematous (SLE) is a chronic systemic autoimmune disorder whose diagnosis depends on combination of multiple factors. Circulating lncRNAs could serve as diagnostic non-invasive biomarkers for SLE. We hypothesised that serum FAS-AS1 and PVT1 are new biomarkers for SLE that relate to clinical features and laboratory markers. Materials and Method: Measurement of serum FAS-AS1 & PVT1 by qRT-PCR, analysis of the association between two RNAs and the clinical data, activity index and laboratory markers by standard routine methods. Results: There was a significant relative increased serum FAS-AS1 (median (IQR) 2.19 (0.13–8.62) and a significant reduced PVT1 (median (IQR) 0.52 (0.01–7.55) in SLE patients compared to controls ($P < 0.0001$ for FAS-AS1 and = 0.007 for PVT1). Serum FAS-AS1 and PVT1 were positively correlated ($r = 0.37$, $P = 0.001$). Higher FAS-AS1 was significantly linked with nephritis ($P = 0.011$), positive anti-dsDNA ($P = 0.01$) and lower serum PVT1 was significantly associated with oral ulcers ($P = 0.023$), photosensitivity ($P = 0.017$), and neurological manifestations ($P = 0.041$). Serum PVT1 negatively correlated with age ($r = -0.52$, $P < 0.0001$) and ESR level ($r = -0.29$, $P = 0.011$) in SLE patients. No correlation between disease activity and serum FAS-AS1 or PVT1 was detected.

Conclusions: Our study provides evidence that serum FAS-AS1 and PVT1 are new biomarkers for SLE.