論 文 要 旨

Exosome-Derived microRNAs from Mouthrinse Have the Potential to Be Novel Biomarkers for Sjögren Syndrome

（うがい液中のエクソソーム由来マイクロ RNA は、シェーグレン症候群の新規バイオマーカーとしての可能性を持つ）

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Abstract: Sjögren syndrome (SS) is diagnosed based on invasive tissue biopsies and blood sampling. Therefore, a novel non-invasive and simple inspection diagnostic marker of SS is required. Here, we identified exosome-derived microRNAs (miRNAs) as biomarkers for SS using non-invasive mouthrinse samples collected from patients with SS and healthy volunteers. We compared miRNAs derived from exosomes in mouthrinse samples from the two groups using microarrays and real-time polymerase chain reaction (PCR) and identified 12 miRNAs as biomarker candidates. The expression ratios of four miRNAs were significantly increased in the SS group compared to the control group. Logistic regression analysis revealed a more significant influence of miR-1290 and let-7b-5p in the SS group than that in the control group. We combined these miRNAs to create a diagnostic prediction formula using logistic regression analysis. The combination of miR-1290 and let-7b-5p distinguished SS from the control samples with an AUC, sensitivity, specificity, positive predictive value, and negative predictive value of 0.856, 91.7%, 83.3%, 84.6%, and 90.9%, respectively. These results indicated that an increased ratio of these miRNAs could serve as a novel and non-invasive diagnostic marker for SS. This is the first report of diagnosis and screening of SS by adopting a non-invasive method using mouthrinse.

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