

Letters to the Editor

Circulating miR-21 as novel biomarker in gastric cancer: Diagnostic and prognostic biomarker

Sir,

Gastric cancer (GC) is known the second leading cause of cancer death worldwide. In 2012, it occurred in 950,000 people and led to 723,000 deaths. Despite many advances in treatment of GC, patients show poor prognosis and the 5-year survival rate is 5–20%.^[1] Therefore, identifying novel biomarkers open new landscapes in diagnosis and prognosis for various stages of GC. Among of various biomarkers, microRNAs (miRNAs) have emerged as the potential diagnosis and prognosis biomarkers in GC therapy.^[2] Several evidence revealed that they involve in pathogenesis pathways. Circulating miRNAs are present in cell-free body fluids such as serum, plasma, and urine. These molecules such as miR-21 can be utilized as the potential biomarkers in several malignancies such as GC and other digestive cancers. miR-21 upregulated in GC lead to inhibition of various tumor suppressor genes including PTEN, RECK, and PDCD4.^[3] The suppression of these genes can promote proliferation, migration, and apoptosis inhibition. In addition, several studies demonstrated that upregulation of miR-21 is associated with poorer survival, worse tumor differentiation, lymph node metastasis, and tumor-node-metastasis stage.^[4] Therefore, miR-21 detection has a prognostic value in patients with GC. Several studies showed that the diagnostic sensitivity and specificity of this biomarker is 78% and 89%, respectively, which are largely higher than other serum markers such as carcinoembryonic antigen and CA19-9 in clinics.^[3,4] On the other hand, some reports showed low prognosis power and diagnosis accuracy for this molecule. Hence, increasing prognosis and diagnosis accuracy has been suggested the utilizing of various combination of miRNAs with miR-21 such as miR-27a and miR-106 that they also upregulated in plasma or serum of patient with GC.^[4,5] Finally, miR-21 has a great potential to serve as new biomarkers in the treatment of GC.

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Conflicts of interest

There are no conflicts of interest.

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