



## Expression and significance of miR-21 in multiple myeloma patients

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**ABSTRACT.** The aim of the present study is to examine the expression level of peripheral mir-21 in multiple myeloma (MM) patients and to determine its clinical significance. MM patients (30), monoclonal gammopathy of undetermined significance (MGUS) patients (14), and normal controls (20) were recruited to determine the serum level of  $\beta$ 2-MG, IgA and IgM, IgG,  $\lambda$ ,  $\kappa$ , TP, ALB, Hb, LDH, and  $\text{Ca}^{2+}$ . Gene expression of mir-21 was quantified by SYBR green real-time fluorescent quantitative PCR. We found that the expression level of serum mir-21 in the MM group was significantly higher than the MGUS group and the NC group ( $P < 0.01$ ). According to the ISS installment, the level of mir-21, IgG,  $\kappa$ , and ALB in the MM group in stage I differed from that in stages II and III. The level of IgA,  $\beta$ 2-MG in stage III was higher as compared with stage I and II ( $P < 0.05$  and  $P < 0.01$ ). The levels of mir-21,  $\kappa$ , ( $\kappa+\lambda$ ), IgG, (IgG + IgA + IgM), and  $\beta$ 2-MG in MM patients were positively correlated with ALB ( $P < 0.01$ ). Based on the results, miR-21 plays an important role as an oncogene. Mir-21 may be important in the occurrence, development, and disease prognosis of MM.

**Key words:** Multiple myeloma; Mir-21; PCR; Correlation