**Background:** Accumulating evidence reveals that microRNA 27a (miR 27a) is implicated in the pathogenesis of cancer. However, its diagnostic role in breast cancer (BC) still needs investigation.

**Materials and methods:** MiR 27a expression was assessed in serum samples from patients with primary BC (*n =* 100), benign breast lesions (*n =* 30) and control group served as healthy volunteers (*n =* 20) using quantitative real-time PCR.

**Results:** Both expression and mean rank of miR 27a and tumor markers among BC patients as compared to the other two groups. Clinicopathological characteristics showed significant relation with miRN 27a expression for clinical stage, histological grading, ER receptor and HER-2/neu. The diagnostic efficacy for miR 27a was superior to both tumor markers for early detection of BC especially high-risk BC groups.