LncRNA NEAT1 and miRNA 101 as potential diagnostic biomarkers in patients with alopecia areata

Background:
Alopecia areata (AA) commonly displays as non-scarring, irregular hair loss. Experimental and clinical research have specifically implicated autoimmunity and genetics in the disruption of anagen hair follicles. AA patients' scalp lesions and peripheral blood mononuclear cells (PBMCs) exhibited an immune state imbalance. Numerous studies attempt to establish a connection between the occurrence and prognosis of AA and the epigenetic modulation of gene expression by long noncoding RNA (lncRNA) and microRNA (miRNA). The current study aimed to examine the serum levels of nuclear enriched abundant transcript 1 (NEAT1) and its target miRNA101 (miR-101) in AA and investigate the ability to use them as diagnostic biomarkers in the disease.
Methods:
Seventy-two AA patients were included in this prospective cohort study. Demographics, patient history, laboratory characteristics, and treatments were recorded. The miR-101 and NEAT1 levels were evaluated.
Results:
Serum NEAT1 levels were lower in AA patients, but there was no significant difference. However, there was no substantial disparity in NEAT1 level regarding other disease characteristics. There was a substantial positive association between NEAT1 and miR-101 levels among cases. On the other hand, the results showed a markedly low mean of miR-101 levels among patients, but the miR-101 marker shows no significant difference regarding different disease characteristics. The specificity and sensitivity test for the miR-101 marker shows a significant specificity of 60 % and sensitivity of 75 % with a p-value of 0.001 and a cut-off value of 0.897.
Conclusions:
The current research determined that miR-101 works as a diagnostic biomarker for AA.