

عنوان مقاله:

MicroRNA involved in endometriosis and their potential role as diagnostic biomarkers

محل انتشار:

نوزدهمین همایش سالانه و دومین همایش بین المللی آسیب شناسی و طب آزمایشگاه (سال: 1396)

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خلاصه مقاله:

Endometriosis is a prevalent benign estrogen-dependent inflammatory disorder characterized by the presence of endometrial-like tissue outside the uterus which has been classified as a tumor-like condition. miRNAs are short non-coding RNA molecules, usually consisting of 18–30 nucleotides, acting as gene regulators. miRNA expression differences between endometriotic lesions and eutopic endometrium from women with endometriosis have been reported. It has been demonstrated that all mechanisms responsible for endometriosis development can be regulated by miRNAs including cell proliferation, matrix remodeling, cell survival, angiogenesis and etc. In this study, we reviewed the comparison between the miRNA expression profiling in women with endometriosis and healthy women to introduce possible non-invasive diagnostic biomarkers and analyzing their target genes which are responsible for endometriosis developments using bioinformatics methods. After searching in databases such as Scopus, Science Direct, PubMed, google scholar with keywords as microRNA; biomarker; endometriosis, 20 articles published full text between 2005 and 2016. In 2013, Wang et al. reported the differential expression of serum miRNAs in 60 endometriosis patients and 25 healthy controls. After validation of the results by q-RT-PCR, they reported that miR-199a and miR-122 were up-regulated in patients compared with controls and miR-145-3p, miR-141, miR-542-3p and miR-9 were down-regulated. Shortly thereafter, another study by Jia et al. was performed on 23 women with endometriosis and 23 healthy women in order to evaluate the plasma miRNA's profiles. 3 out of 6 named miR-17-5p, miR-20a and miR-22 were selected for validation by qRT-PCR. It was found that the expression of these miRNAs were significantly reduced in patients compared to the healthy ones and could be used for diagnostic tools between them. In 2015, two studies were conducted on the use of miRNA as a possible non-invasive biomarker of endometriosis. The first study was performed on 24 patients with endometriosis and 24 controls. According to the results, the let-7b and miR-135a were significantly up-regulated in patients. Also, the expression of let-7b, 7d, 7f in patients were reduced and have a potential role in diagnosis of endometriosis. A second study was conducted on miR200 family named miR-200a-3p, miR-200b-3p and miR-141-3p. The expression of all three of them were reduced in plasma of 61 compared to 65 controls, among which miR-200a-3p and miR141-3p had a higher potential as a non-invasive diagnostic biomarker. Circulat

کلمات کلیدی:

miRNA, Endometriosis, Real-Time-PCR, Biomarker

