عنوان مقاله:

Significance of microRNA targeted estrogen receptor in male fertility

محل انتشار:

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خلاصه مقاله:

Objective(s): Estrogen receptor-alpha (ERα) mediates estrogen action in regulation of different levels of the hypothalamic-pituitary-testis axis. It has a key role in spermatogenesis. Estrogen receptor alpha knock-out (ER koα) male mice were infertile and severe impairment in spermatogenesis and seminiferous tubules was observed. Recently, it has been reported that microRNA (miRNA) mir-۱۰۰ and let-۷b were predicted to target ERα gene. MiRNA are small, endogenous, single stranded RNA molecules that regulate gene expression and have been implicated in various disease states. It has been proved that some miRNAs expression is tissue- and disease-specific, giving potential for identifying miRNAs as a diagnostic tool. Materials and Methods: In this study, the change in the expression levels of mir-۱۰۰, let-۷b and ERα expression levels were evaluated in oligospermic infertile patients (n=۴۳) compared to control fertile subjects (n=۴۳). After washing and separating sperms, total RNA was isolated and then cDNA was synthesized. The expression levels of mir-۱۰۰ and let-۷b and ERα were evaluated by real time PCR. Results: Mir-۱۰۰, let-۷b levels were significantly higher than those in control group (P=۰.۰۰۸ and P=۰.۰۰۹, respectively). We have found that, ERα level was significantly decreased in comparison with normal group (P< ۰.۰۰۰۱). Conclusion: Changes in mir-۱۰۰, let-۷b and ERα expression levels in oligospermic patients may be associated with the susceptibility and progression of infertility. The results of this study indicate that miRNA can have a key role in spermatogenesis and

.might have a diagnostic and prognostic value in men infertility

کلمات کلیدی:
Fertility, Has-mir-۱۰۰, Has-let-۷b, MicroRNA