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MiRNA-130a: A novel endometriosis-inducing factor

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Objective: We aimed to study whether regulatory networks in the blood of women with endometriosis that determine the transformation of mesenchymal stem cells into endometrial-like cells may involve the miRNAs component or not.

Methodology: We examined the expression levels of 88 miRNAs using an SYBR Green-based real-time PCR array in blood samples from 12 women divided into three groups (control group (three women), mild endometriosis group (four women) and five women included in the severe endometriosis group). The relative abundance of the miRNA level was calculated using the $\Delta\Delta$ CT method.

Results: MiRNA-130a was significantly up-regulated in the severe endometriosis group compared with the mild endometriosis and the control groups. 29 miRNAs were significantly down-regulated in the mild endometriosis group, whereas only two were significantly down-regulated in the severe endometriosis group compared with the control group.

Conclusion: We conclude that miR-130a is a potent regulator of gene expression in endometriosis leading to enhanced transformation of mesenchymal stem cell into endometriotic-like cells. Furthermore, the blood levels of miR-130a may serve as indicators for endometriosis. It also explains the pathophysiology of the occurrence of endometriosis. This may open up an exciting new avenue for targeted anti-angiogenesis therapy for such a devastating disease.

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