

9th Yazd International Congress and Student Award on Reproductive Medicine with 4th Congress of Reproductive Genetics

Key Lectures

K-29

Endometrial scratching: What is the end of role?

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Embryo implantation is one of the most important factors influencing pregnancy in assisted reproductive technology cycles and is usually attributed to a lack of uterine receptivity. Although some studies suggest that endometrial scratching may double the chances of getting pregnant, conclusive scientific evidence on its benefits and knowledge of the underlying mechanisms is limited. It is not clear exactly how endometrial scratching works, but it is thought that scratching the uterine lining may induce an inflammatory response. The subsequent repair process may improve the chances of implantation by:

- The release of growth factors, hormones, and proinflammatory cytokines, which make the newly-formed lining more receptive to an implanting embryo
- Activating genes that are important for the preparation of the endometrium, which may not otherwise be turned on, at the time of attempted implantation.

Mechanical disruption to the endometrium has been shown to modulate the genetic expression of factors

important for implantation, including laminin alpha 4, integrin alpha 6, matrix metalloproteinase 1, and glycodelin A. The optimum time for endometrial scratching is controversial and should be discussed in the presentation. A Cochrane review of nine randomized trials including 1512 women with unexplained subfertility suggested an overall benefit from endometrial scratching. However, the review also stated significant limitations to the included studies, and cautioned against drawing confident conclusions from these findings. The authors also emphasized the importance of balancing the possible benefits against the potential risks. Although Olesen in 2019 was shown that the pregnancy rate is higher after endometrial scratching but other studies showed differences in live birth and clinical pregnancy rates among the endometrial scratch and control groups were not significant. But, recently in 2020 results of the SCRaTCH trial that was a non-blinded randomised controlled trial in women with one unsuccessful IVF/ICSI cycle would lead to a higher live birth rate after the subsequent IVF/ICSI treatment compared to no scratch. According to available data, more research is needed in order to determine whether endometrial scratching significantly improves the chances of pregnancy with IVF. Finally, this procedure should not be offered in daily practice, and its use in patients undergoing IVF for the first time is not supported.