



Opinion

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Recurrent Implantation Failure What is beyond Endometrium and Embryo



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Opinion

Recurrent implantation failure (RIF) is defined as failure to achieve pregnancy after transfer of embryos of good quality to implant in women under age of 40 following several in vitro fertilization (IVF) treatment cycles [1]. The failure to implant is due to declined endometrial receptivity, defective embryonic development and other factors like endometriosis, presence of hydrosalpinges [2]. Factors which might cause defective endometrial receptivity include uterine polyps, septa, leiomyomata and adhesions, thin endometrium and lack of good culture media for intra cytoplasmic sperm injection (ICSI) [3-5].

35% of patients with RIF were found to have chronic endometritis (CE), confirming the importance of sampling the endometrial cavity in recurrent IVF-ET failures. This pathology may permanently alter the integrity or biochemical milieu within the endometrial cavity [6]. Office hysteroscopy is a useful diagnostic tool but should be complemented by an endometrial biopsy for the diagnosis of CE [7].

Recurrent ectopic pregnancy is one of the risk factors of RIF. The declined intrauterine implantation rate to some extent indicates an altered endometrium, which may play an important role in the pathogenesis of ectopic pregnancy [8].

Altered endometrial receptivity may be associated with immunological problems. Women with RM and RIF showed an increase of circulating proinflammatory cytokines, altered endometrial T lymphocytes subsets, and signs of endometrial ER stress [9].

Repeated implantation failure after IVF relates to diminished plasma volume along with increased uterine vascular resistance [10]. leukaemia inhibitory factor mRNA expression was significantly decreased in abnormal uterine cavities during the midsecretory phase, indicating that endometrial cavity defects are a possible cause of poor reproductive outcomes [11].

Inherited and acquired thrombophilias are encountered in many cases of RIF. Factor V HR2 was found to be associated with RIF and screening for the HR2 haplotype should be done in these patients [12]. Factor XII may be a good predictor, while there is no role to measure protein C, protein S, antithrombin III, or factor XIII. [13]. As regards acquired thrombophilia 9% of women with a history of recurrent implantation failure had more than one positive antiphospholipid antibodies [14].

Advanced maternal age is associated with a high frequency of chromosomal abnormalities. However, an even greater frequency of chromosomal abnormalities was seen in poor prognosis women with RIF regardless of age [15]. In women with recurrent implantation failure, two consecutive euploid IVF/PGD cycles is associated with a high ongoing pregnancy and implantation rate [16].

Recurrent implantation failure is a night mare for both the patients and the doctor. It needs a wide range of investigations and there is a debate about the lines of management. Till now the pregnancy rate after ICSI cycle in RIF patients still unsatisfactory.

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