



# Recurrent Implantation Failure: Is It Time to Redefine It?

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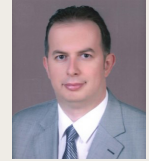
Diagnosing recurrent implantation failure (RIF) is difficult for many infertile women undergoing in vitro fertilization (IVF). Over the years, its definition has changed several times. European Society of Human Reproduction and Embryology (ESHRE) Preimplantation Genetic Diagnosis (PGD) Consortium defined repeated implantation failure as “>3 embryo transfers with high quality embryos or the transfer of ≥10 embryos in multiple transfers; exact numbers to be determined by each centre” in the year of 2005, when transferring multiple embryos was common (1). In a review by Coughlan et al in 2014, RIF has been proposed to be defined as “the failure to achieve a clinical pregnancy after transfer of at least 4 good-quality embryos in a minimum of three fresh or frozen cycles in a woman under the age of 40 years” (2). A variety of other definitions of RIF based on clinical rather than scientific judgement and generally referring to two to three failed cycles in good-prognosis women have also been used so far (3).

Recently, some novel definitions were proposed because of the shortcomings of the available ones (4-6). They all guided their diagnostic criteria by statistical considerations rather than the clinical judgements or demands of the patients (7).

The probability model of Somigliana et al was based on the chances of success per cycle and defined RIF by three failed attempts including three oocyte retrievals and all subsequent transfers in women younger than 40 years of age (6). Rozen and colleagues' complex individualized diagnostic method suggested to consider multiple factors with the inclusion of the woman's age, the number, stage and quality of embryos transferred previously, the cycle types, etc. (5). The other complex model by Ata et al also proposed an individualized model which was mainly based on the euploidy rates anticipated for the female age ranges (4).

As a result, we may conclude that a widely adopted rational definition of RIF is not yet available and the efforts to provide such a definition is still on progress. We are looking forward to seeing whether the recently suggested definitions of RIF will be accepted by the scientific community and the patients or not.

Mertihan Kurdoğlu graduated from Hacettepe University Faculty of Medicine, Department of Medicine (English). He completed his specialty in Obstetrics and Gynecology at Gazi University, Faculty of Medicine, Department of Obstetrics and Gynecology between 2001 and 2005. In 2006, he worked as a specialist at Çankırı State Hospital. Between 2007 and 2014, he worked at Van Yüzüncü Yıl University, Faculty of Medicine, Department of Obstetrics and Gynecology. Between the years 2014- 2016, he worked in Gazi University Faculty of Medicine, Department of Obstetrics and Gynecology and during that time, he was sent to Division of Minimally Invasive Gynecology and Research in the Department of Obstetrics and Gynecology of the University of Texas Medical Branch at Galveston, Texas, USA by the Gazi University and was trained on robotic surgery by Assoc. Prof. Gökhan Sami Kılıç. He has published over 150 scientific papers in national and international journals with more than 2100 citations and 7 book chapters in the national and international textbooks. He was a member of the editorial board of Van Medical Journal, editor of *Turkish Journal of Obstetrics and Gynecology* and editor-in-chief of the *Eastern Journal of Medicine*, previously. At present, he acts as the editor-in-chief in the *International Journal of Women's Health and Reproduction Sciences* together with Prof. Dr. Arash Khaki.



## Conflict of Interests

The author has no conflicts of interest to disclose.

## Ethical Issues

Not applicable.

## References

1. Thornhill AR, deDie-Smulders CE, Geraedts JP, et al. ESHRE PGD Consortium 'Best practice guidelines for clinical preimplantation genetic diagnosis (PGD) and preimplantation genetic screening (PGS)'. *Hum Reprod.* 2005;20(1):35-48. doi:10.1093/humrep/deh579
2. Coughlan C, Ledger W, Wang Q, et al. Recurrent implantation failure: definition and management. *Reprod Biomed Online.* 2014;28(1):14-38. doi:10.1016/j.rbmo.2013.08.011
3. Polanski LT, Baumgarten MN, Quenby S, Brosens J, Campbell BK, Raine-Fenning NJ. What exactly do we mean by 'recurrent implantation failure'? A systematic review and opinion. *Reprod Biomed Online.* 2014;28(4):409-423. doi:10.1016/j.rbmo.2013.12.006
4. Ata B, Kalafat E, Somigliana E. A new definition of recurrent implantation failure on the basis of anticipated blastocyst aneuploidy rates across female age. *Fertil Steril.* 2021;116(5):1320-1327. doi:10.1016/j.fertnstert.2021.06.045
5. Rozen G, Rogers P, Teh WT, Stern CJ, Polyakov A. An algorithm to personalise the diagnosis of recurrent implantation failure

Received 10 June 2022, Accepted 21 July 2022, Available online 29 July 2022

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- based on theoretical cumulative implantation rate. *Hum Reprod.* 2021;36(6):1463-1468. doi:10.1093/humrep/deab091
6. Somigliana E, Viganò P, Busnelli A, Paffoni A, Vegetti W, Vercellini P. Repeated implantation failure at the crossroad between statistics, clinics and over-diagnosis. *Reprod Biomed Online.* 2018;36(1):32-38. doi:10.1016/j.rbmo.2017.09.012
7. Somigliana E, Busnelli A, Kalafat E, Viganò P, Ata B. Recurrent implantation failure: a plea for a widely adopted rational definition. *Reprod Biomed Online.* 2022;45(2):183-185. doi:10.1016/j.rbmo.2022.01.011

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