An evaluation of the use of G-CSF as an adjunct to IVF in women who have previously failed attempts at pregnancy with IVF

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Background: For some, pregnancy by standard in vitro fertilization (IVF) is not achieved, even if ovulation induction and embryo development is successful. This may be due to defective implantation. A thin endometrium is associated with implantation failure. Studies show that improved endometrial thickness increases the probability of successful IVF.

Objectives: To evaluate the effects of Granulocyte Colony Stimulating Factor (G-CSF) as an adjunct to standard IVF. The study looked at the influence of G-CSF on achievement of pregnancy as well as its effects on the endometrium.

Methods: This was a retrospective cross-sectional study of a subgroup of women attending BioART Fertility Centre, who had two or more failed IVFs previously. These women underwent a procedure of trans-vaginal instillation of G-CSF in addition to their IVF protocol. Endometrial thickness was not a criterion for its use.

Results: The group consisted of 49 women, mean age 38.9 (SD±6.11). Mean number of previous IVFs were 3.1 (SD±1.76). Mean endometrial thickness pre-GCSF was 7.53 mm (SD±2.69) and post-GCSF was 9.11 mm (SD±2.12). The clinical pregnancy rate was 34.69%. Univariate analysis between those that achieved pregnancy and those that did not showed that the age difference between the groups was statistically significant (p-value 0.0005). G-CSF use was associated with increased pregnancy rates in younger women. Mean endometrial thickness pre and post-GCSF between the groups was not statistically significant (p-values>0.05). However the mean change in endometrial thickness in all women regardless of pregnancy outcome was statistically significant (p-value 0.0029).

Conclusion: G-CSF is a useful adjunct in the treatment of women aged less than 38 years with recurrent failed IVFs. We reported a statistically significant overall expansion of endometrial thickness with the use of G-CSF but failed to show any association between endometrial expansion and pregnancy outcome.

Biography
Tasneem Mohamed has obtained her MBCh degree from the University of Witwatersrand in Johannesburg, South Africa in 2008 and began her Internship at Chris Hani Baragwanath Hospital in 2009. She has completed her Internship in December 2010 and thereafter began her Community Service at Edenvale Hospital. After completing her community service, she stayed on at Edenvale Hospital and worked as a Medical Officer in the Obstetrics and Gynecology Department from 2012 to 2014. During this time, she successfully completed her Part II Fellowship exam as well as her Master’s degree (MMed). In May 2018, she joined BioART Fertility Centre, working as a Gynecologist and also training in the field of infertility under the supervision of Dr. M.I. Cassim and Dr. Y.M. Dasoo. She also joined the Parktown OBGYN practice at Parklane Hospital in July 2018, where she consults in the afternoons.

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