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PROMISING FUTURE OF STEM CELLS-BASED TREATMENTS IN REPRODUCTIVE MEDICINE: IN HOUSE EXPERIENCE OF IVF CLINIC

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Stem cells-based therapy has emerged as one of the most promising approaches for the management of various intractable disorders. Recently the role of adult autologous stem cells has showed its effectiveness in many chronic and incurable diseases such as myocardial infraction, cancer and Type II diabetes. However, compared to the above chronic conditions, the role of stem cells in reproductive disorders such as azoospermia, endometriosis and ovarian failure remains largely unexplored. Some studies have shown a potential role of bone marrow derived stem cells (BMSCs) in reproductive medicine. Our studies on bone marrow derived stem cells as bone marrow concentrate (BMCs) for the treatment of ovarian rejuvenation, testicular rejuvenation and thin endometrium lining regeneration have shown its potential in improving these conditions. For example, author found that the application of BMCs improved the testicular functioning in terms of total number of sperm its motility and the quantity of semen in patients with severe azoospermia, thus showing its potential in spermatogenesis. Furthermore, BMCs with platelet rich plasma (PRP) improved the lining of endometrium in patients with thin endometrium. What's more, it has helped in the implantation of embryos in patients having recurrent implantation failure. Finally, they discovered that ovarian rejuvenation with BMCs also improved the total number of eggs and its quality. All together, these results indirectly demonstrated the potential of these cells in treatment of various fertility related conditions. These studies, although promising, should be considered preliminary and they need more research, involving clinical trials to fully evaluate BMCs role in reproductive medicine.

BIOGRAPHY

Nayana Patel is a Medical Director of Akanksha Hospital and Research institute, India. She is considered as pioneer in the field of IVF and surrogacy in India. Her fertility clinic have helped in deliver of total 1195 surrogate babies to national and international couples till date.

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