



Male Contraception- An Update

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The population of world, which is increasing at the rate of 80 million persons every year, is likely to cross 9 billion by the year 2050. According to Family Planning 2020, a global partnership formed at London Summit in 2012, modern contraceptive methods can prevent a large number of unintended pregnancies, unsafe abortions and maternal deaths (1).

Male contraception has been an area of active research for the last five decades but still effective reversible contraceptives for men are not available. At present, male contraception options are limited to withdrawal methods, condoms and Vasectomy/non-scalpel vasectomy (NSV). Various studies and surveys indicate willingness to use male contraceptives methods among young adults (2,3).

Ideal male contraceptive method should be independent of the sexual act and without short- or long-term side-effects and no interference with libido. It should be effective, fully reversible, have no impact on the eventual offspring and be easily accepted by both the partners (4,5).

Research on vas-occlusion has revealed that ideal vas-occlusive contraceptive should: i) be easily administered by single physician ii) form instantaneously in the lumen without subsequent migration iii) effectively block the passage of sperms iv) be reversible by

dissolution or via minor procedure and v) have no significant permanent histological effects on the vas deferens, sperm or genitor-urinary system (6).

Prof. Sujoy K Guha proposed a new technique, where in Styrene Maleic Anhydride (SMA) – a co-polymer dissolved in dimethyl sulphoxide (DMSO) was developed as a new perspective in non-hormonal male contraceptive methods (7). The technique was named as RISUG- Reversible Inhibition of Sperm Under Guidance. RISUG is similar to vasectomy in that a local anesthetic is administered, an incision is made in the scrotum, and the vasa deferentia are injected with a polymer gel (rather than being cut and cauterized). In a matter of minutes, the injection coats the walls of the vasa with a clear gel made of 60 mg of the copolymer styrene maleic anhydride (SMA) with 120 μ l of the solvent dimethyl sulfoxide. The copolymer is made by irradiation of the two monomers with a dose of 0.2 to 0.24 megarad for every 40 g of copolymer. When injected into lumen of vas-deferens, the polymer precipitates into an occlusion.

A multi-centric limited Phase III clinical trial of RISUG reported no pregnancy among the subjects that received complete dose of RISUG with majority of the individuals under study achieving either oligospermia or azoospermia within 2 months after injection (8).

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Published Online First: 15 September 2020

Open Access at: <https://www.jkscience.org/>

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Cite this article as: Gupta RK, Kumari R. Male contraception- An update. JK Science 2020;22:104-05.



Currently the drug is in final clinical trials at various centres in India waiting for approval from Drug Controller General of India for mass production. Khilwani et al have aptly said that RISUG provides a hope which has a slow pace and drawbacks but it is in a right direction (9). More diverse methods of male contraceptives are needed to help in meeting the unmet contraceptive need of men and women. Development of more contraceptive options for males is vital in providing holistic reproductive healthcare. The goal for the future in the development and commercialisation of a male contraceptive should be a method that has high efficacy, reversible, easy to use, minimum side-effects and short speed of action to prevent unwanted pregnancy.

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