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Sperm impairing factor from Staphylococcus aureus as male contraceptive: An in vivo study

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Context – Despite significant advances in contraceptive options for women, vasectomy and condoms are the only options available for male contraception. Due to this limitation, the burden of contraception resides on the shoulders of females only. Therefore, there is an urgent need to develop a safe, effective and reversible method of contraception for men. Amongst the alternative approaches, microbial derived products are gaining attention of the scientific world to combat unintended pregnancies.
Objective – Evaluation of microbial sperm impairing factor as potential male contraceptive in mouse model
Methods – Different concentrations viz. 10, 50, 100 and 200 ?g of sperm immobilization factor (SIF) isolated from Staphylococcus aureus was inoculated in the lumen of right vas deferens in the direction of cauda in male Balb/c mice, whereas the left vas deferens served as control. The mice were sacrificed on day 1, 7, 14, 21, 30, 45 and 90 after inoculation and the results in terms of change in body weight, seminal parameters, TSI and histopathology were studied.
Main Outcome Measure(s) – Contraceptive efficacy
Result(s) – The weight profile studies of all the experimental groups showed no significant change in the initial and final body weight. In case of seminal parameters, the results revealed complete loss of sperm count, motility and viability up to 90 days in the right vas deferens treated with 200 ?g of SIF. Tissue somatic indices of reproductive organs as well as of non-reproductive organs showed no significant change in the TSI in all experimental groups. Histolopathogical studies revealed hypospermatogenesis and late maturation arrest on treated side whereas the left side which served as control showed normal tissue histology.
Conclusions ¬– SIF when administered through intravasal route can lead to reduced male reproductive vigour, thus, it could be exploited to develop as a potential male contraceptive.

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