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Combined Nestorone + Testosterone Gel for Male Contraception

Male hormonal contraception depends on exogenously administered sex steroids, an androgen testosterone with a progestin, to suppress endogenous secretion of both gonadotropins, LH and FSH, and intratesticular production of testosterone. We have demonstrated that the addition of a progestin to an androgen was the most important predictor of suppression of spermatogenesis to a level compatible with contraceptive efficacy (severe oligozoospermia) as well as decreasing the rate of failure to suppress. While progestins enhance gonadotropin suppression, testosterone or another androgen remains critical for maintenance of androgenicity and for optimal suppression of spermatogenesis. Transdermal application of testosterone gel is one of the most utilized delivery system for testosterone replacement in hypogonadal men. Nestorone is a progestin that is very effective in suppressing gonadotropins in women and has no androgenic or estrogenic activities. Nestorone has been tested in over 2000 women when incorporated into a vaginal ring with estrogens. The transdermal route of delivery results in steady release of both testosterone and Nestorone into the body from the subcutaneous depot after gel application. Supported by the National Institutes of Child Health and Human Development and the Male Contraceptive Clinical Trials Network, we have conducted a dose finding study of Nestorone and testosterone gel in men showing that the combined gel is very effective suppressing gonadotropins as a surrogate marker of disturbed spermatogenesis(1). Using an optimized dose of Nestorone and a testosterone dose used for hormone replacement in hypogonadal men, we showed that the combination of gels was also effective in suppressing spermatogenesis to severe oligozoospermia in almost 90% of men for 6 months(2). Based on these encouraging data, we further decreased the dose of testosterone and showed that the lower testosterone dose and the optimized Nestorone dose resulted in similar suppression of spermatogenesis as in our prior published study. In the summer of 2018, we will conduct an efficacy study with Nestorone+Testosterone gel in over 400 couples for 12 months treatment duration where prevention of pregnancy in the female partner is our primary endpoint. This multinational study has an acceptability component to assess the motivation, acceptability and adherence in this user-controlled method of male contraception.

1. Mahabadi V, et a.l J Clin Endocrinol Metab. 2009;94(7):2313-20.

2. Ilani N et al. J Clin Endocrinol Metab. 2012;97(10):3476-86.

Presenter biography:
Christina Wang, MD is a Professor of Medicine and Assistant Dean in Clinical and Translational Sciences at the David Geffen School of Medicine at UCLA. She is the Associate Director of the UCLA Clinical and Translational Science Institute, and a faculty member of the Division of Endocrinology, Department of Medicine, Harbor-UCLA Medical Center and Los Angeles Biomedical Research Institute (Harbor-UCLA/LA BioMed), Torrance, California. She is an internationally renowned andrologist/endocrinologist and a clinical and basic investigator/educator. Dr. Wang has been involved in many funded basic and clinical research studies. Her current clinical research studies include androgen replacement therapy, hormonal male contraceptive development, androgen metabolism, aging in men, and environment effects on sperm quality.

Do the author(s) have any commercial interests or associations that might pose a conflict of interest regarding this submission?
No, COI

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