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Treatment of male hypogonadism with clomiphene citrate: Where do we stay?

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Clomiphene Citrate (CC) was developed in 1956 as a selective estrogen receptor modulator and was subsequently used in clinical medicine starting in 1967, to treat female infertility. CC has also been used off-label to treat male infertility and hypogonadal symptoms. In this brief review, we will examine and summarize the available literature on CC and assess its efficacy in the treatment of male hypogonadism. We performed an extensive review of the literature using the PubMed search engine. Our goal was to compare the FDA-approved treatment for male hypogonadism, testosterone, with CC treatment for male hypogonadism. We accessed and reviewed 29 relevant research articles. Our review revealed that CC increased serum testosterone levels, similar to the serum testosterone levels observed following testosterone gel application. We also found support for our contention that CC improves hypogonadal symptoms. An important difference between CC and testosterone is that CC appeared to preserve sperm production and maintain fertility. This is an important feature of CC treatment, as fertility is frequently desired in patients with secondary/tertiary hypogonadism. We also compared the safety of CC to testosterone and found that CC had a similar safety profile. In summary, CC appeared to be a suitable therapy for patients with male factor infertility and associated hypogonadal symptoms. However, based on our review, we found that more research is required to further examine CC's effectiveness for the treatment of these conditions.

Keywords: Clomiphene Citrate (CC), Testosterone, Hypogonadism, Polycythemia, Infertility.

Biography

Andre Emanuilov Manov was an ABIM Board Certified in Internal Medicine, Endocrinology, 50 publications Peer reviewed Journals in Area of Endocrinology and Internal medicine in the USA, England, France and Bulgaria. He worked as Assistant, Associate and Full Professor to the students from University of North Texas Health Science Center/UNTHSC from 2011-2018 in John Peter Smith Hospital, Fort Worth, TX. He was a Course director in Endocrinology at a level of Professor for 2nd year medical Students in UNTHSC-2017-2018. He is a professor in TCU and UNTHSC School of medicine since 2016. He was Associate Program Director of Internal medicine in Sunrise health GME Consortium 05/ 01/2020-05/01/2021, Mountain View Hospital, Las Vegas Nevada, USA and now he was core Faculty in Internal medicine in the same Program. From 05/01/2021-he become Transitional Year Residency Program Director in the same Hospital and GME program. He is a professor of Medicine in Touro and Reno Universities of Nevada since 08/2020. He is a director of Internal Medicine Residency clinic and teaching Internal medicine residents from the Sunrise health GME consortium as a core Faculty and Transitional Year Residents from the same consortium in Internal medicine and Endocrinology. He discovered for first time the adhesion molecule CD44 on snap frozen sections and thyroid cells overexpression in Grave's disease and Thyroid nodules in 1991.

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