

Untoward Azoospermia by absurd testosterone therapy

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The established role of the male partner in overall infertility is almost 50%.¹ The most significant cause is degraded number as well as the quality of sperms.² Spermatogenesis is governed by gonadotropin-releasing hormone (GnRH) then follicle-stimulating hormone (FSH) and finally by testosterone, which is linked with puberty, and essentially required well controlled hypothalamic-pituitary axis leading the Leydig cells along with Sertoli cells.³ In Pakistan incidence of azoospermia is 12.32%, and another study reported it to be 16%, this incidence is comparable to infertility in the USA at 10% while 11.35% in Kenya.⁴ The non-obstructive azoospermia (NOA) is mostly treated with testicular sperm extraction and then intracytoplasmic sperm injection (ICSI), but only a small percentage can afford it, and mostly it requires multiple attempts. So, most couples end up with adaptation or sperm donation.^{5,6} One percent of all men and 10% of infertile are azoospermic. In non-obstructive azoospermia primary testicular failure occur, testosterone therapy (TTh) negative feedback mechanism can cause suppression of luteinizing hormone (LH).⁷ In 30% of infertile men, the cause cannot be established, but genetics, chronic infection, prostatitis, anti-sperm antibodies, and persistent obesity can lead to it.⁸

Unfortunately, in Pakistan, most of our physicians are fond of prescribing a high dosage of testosterone for the long term, to infertile male patients. Patients become satisfied due to the positive characteristics of testosterone, but the most painful aspect is that high TTh leads to complete azoospermia. Moreover, in most such cases, it is permanent due to damage to the germinal layer. More than six-month high TTh is contraceptive.⁹ In 2018 the Endocrine Society and the American Urological Association recommend testosterone therapy to treat infertility and preserve fertility.¹⁰ The first management of such cases is the

cessation of TTh. An integrated analysis of 1549 men on high TTh was reported as the median time to recover was 3.4 months, to a sperm concentration of 20 million/ mL and the median time to recover to baseline sperm concentration was 5.4 months.¹⁰ According to this analysis, 90% of men recovered in 12-month time after stopping TTh with 20 million/ml sperms, and 100% recovered after 24 months, all of them were on average 31.8 years of age. They were on TTh for 9.5 months.¹¹ Hypothalamic-pituitary-gonadal (HPG) axis is almost terminated by testosterone replacement therapy (TRT) and anabolic androgenic steroids (AAS) resulting in very much suppressed or even the complete arrest of the spermatogenesis. Spontaneous cessation of such overwhelming male infertility treatments can recover spermatogenesis depending upon the length and strength of such treatments.^{12,13} The Prime concern is the weightage of the decision by a physician to start such therapies, which have an abusive role in treating infertility. Most physicians are unfortunately causing such azoospermia.

Many very reputed international guidelines and recommendations are against such TTh, TRT, and even AAS for the treatment of male infertility. Clomiphene citrate (CC) and human chorionic gonadotropin (HCG) along with the revival of the hypothalamic-pituitary-gonadal axis can help to restore spermatogenesis in these men, after 1-2 years of the cessation of the TTh.¹⁴

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