

Can sperm count increase in six to eight weeks?

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Citation

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Abstract

Medical therapy for oligospermia is usually given for a minimum period of three months, so that it covers a complete spermatogenic cycle. One experimental study shows that spermatogenic cycles may be shorter, about sixty days, in men. Here clinical data of five oligospermic men are presented to show the increase in sperm count in six to eight weeks only. These men received low dose estrogen and testosterone combination orally for six to eight weeks. Sperm count increased in four of the five men, one man showed mild increase.

INTRODUCTION

The author has earlier reported the beneficial effects of low dose estrogen and testosterone combination therapy (ETCT), on the semen quality in men with oligospermia. [1,2,3]. Medical therapy for oligospermia is usually given for a minimum period of three months, so that it covers a complete spermatogenic cycle. However, one experimental study shows that spermatogenic cycles may be shorter, about sixty days, in men [4]. Here clinical data of five oligospermic men, who received ETCT, are presented to show the increase in sperm count in six to eight weeks only.

CASE REPORTS

Five oligospermic men, who were receiving ETCT (one tablet of ethinyl estradiol 0.0044mg and methyl testosterone 3.6mg orally daily), repeated their sperm count 42-56 days after starting the treatment. The men were between 32 and 41 years of age and had 2-8 years' infertility with several of their semen analyses showing oligospermia. They had earlier received clomiphene and/or androgen, without resulting in any appreciable increase in sperm count after three months. No demonstrable cause for oligospermia could be elicited in their medical history neither any abnormality was detected on physical examination. Hormone analyses could not be done due to the costs involved.

None of the men reported any adverse effects. Pregnancy rate was not counted because the wives were not evaluated completely.

Four of these five men showed appreciable increase in sperm count: an increase of two times or more, one of the men showed mild increase. Sperm count before treatment was in

the range of 2.3- 6.0 millions per mL (mean 4.4 m/mL) and that after treatment was 5.5- 20 millions per mL (mean 13.7 m/mL). Minimum increase in sperm count was 1.3 times and the maximum increase was 7.0 times, mean increase was 3.4 times (Table 1). Motility of sperm at one hour also increased: mean motility being 18.1% before treatment and 32.1% after treatment, but sperm morphology did not show much change.

Figure 1

TABLE 1: Increase in sperm count of five men with oligospermia

Patient no.	Before treatment*	After treatment*	Increase **	Days***
1.	5.0	15.0	3.0	42
2.	6.0	12.0	2.0	50
3.	5.0	20.0	4.0	56
4.	4.0	5.5	1.3	50
5.	2.3	16.1	7.0	48
Mean	4.4	13.7	3.4	49

*Sperm count in millions per mL

** Increase in sperm count (x)

***Interval between semen analyses

DISCUSSION

Presently it is known that a complete spermatogenic cycle is of 74-days duration of which 26-days are for premeiotic and 48-days are for meiotic and later stages: 16 days for each stage between primary spermatocyte, secondary spermatocyte, spermatid and sperm [5]. However, according to the authors of a report [4] the estimate (of 60-70 days

duration for spermatogenesis) is derived mainly from a single older, descriptive, kinetic analysis of spermatogenesis. They developed a noninvasive method to assess germ cell turnover time accurately in vivo using stable isotope labeling and gas chromatography/mass spectrometry analyses. A cycle of sperm production was determined as the lag time until labeled sperm appeared in the ejaculate. Labeled sperm were detected after a mean of 64 days (range 42 to 76). They conclude that a cycle of spermatogenesis is on the shorter side of traditional estimates. These findings are supporting our clinical findings that sperm count can increase in six to eight weeks.

Regarding ETCT, the mechanism of action of this therapy is not yet known; it has been reported that estrogens, or the estrogens /androgens ratio, play a physiological role in male gonadal functions and seem to control the spermatid production and epididymal sperm maturation [6]. Another report [7] concludes that some androgens need to be converted to estrogens in order to ensure the integrity of the gonadotropin feedback mechanism in men, which is essential for normal spermatogenesis.

In conclusion, it is not emphasized that sperm count can increase in six to eight weeks with ETCT only; it may be possible with other medical therapies for oligospermia too. This aspect needs further research, in large controlled

studies. If this observation is found to be true then it may change the clinical practice of giving the medical therapy for oligospermia for a minimum period of three months to that for two months. Until then our report is only presenting an interesting preliminary clinical observation.

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