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Comparison of total motile sperm counts from two consecutive day semen analyses in normospermic and oligospermic men

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To determine the change in total motile sperm counts (TMSC) between two semen analyses performed 24 hours apart in normospermic and oligospermic men. To determine the proportion of normospermic and oligospermic men who have a lower, higher or similar TMSC in the second semen analysis compared to the first.

From February to August 1997, 51 men underwent semen analysis for two consecutive days. Sexual abstinence of three days was required prior to the first examination. Samples were collected by masturbation into sterile wide-mouthed bottles and examined by a single medical technologist after thirty minutes. Volume, percent motility and sperm concentration were recorded and TMSC was computed from the product of these values. Statistical analysis was performed using analysis of variance and Mann-Whitney test.

Normospermic men demonstrated a decline in TMSC of 8% while oligospermic men showed an increase of 43% in the second semen analysis compared to the first. Sixty eight percent of all normospermic men showed a decrease in TMSC while 32% showed an increase or comparable results. Among oligospermic men, 4% showed a decrease in TMSC while 96% showed either an increment or no change from the first to the second ejaculate.

It is concluded from this study that unlike normospermic men, most oligospermic men have a higher or similar TMSC on the second semen analysis compared to the first semen analysis and therefore may theoretically enhance their fertility potential by having intercourse every day around the time of their partner's ovulation.

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The assessment of azoospermic men: The incidence of sex chromosomal aberration and microdeletion in patients with non-obstructive azoospermia in Korea.K.R. Kim, J.S. Jeon, H.N. Shim, S.H. Lee,
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Since the introduction of intracytoplasmic sperm injection (ICSI), spermatozoa recovered from a testicular biopsy specimen can be successfully used for establishing pregnancy. A few spermatozoa may be recovered from wet preparation of a testicular biopsy, not only in obstructive azoospermic patients, but also in many patients with non-obstructive azoospermia (NOA). The aim of this study was to see if any spermatozoa or spermatid could be retrieved from NOA and to evaluate the incidence of genetic aberration in NOA in Korea.

Total 377 out of 522 virtual azoospermic men were absolute azoospermia with NOA. A few sperm cells or spermatids after preparation were recovered from a multiple semen analysis in 130 out of 308 (42.2%). In 31.8% NOA patients with Sertoli cells only in testicular pathology, a few sperms or spermatids were detected. The mean FSH levels of NOA with spermatid in semen preparation is 20.1 IU/ml which is significantly lower than without spermatid. But there is no significant difference in testicular volume and serum testosterone concentrations without histological correlation. In cytogenetic study, 155 out of 230 NOA have normal 46,XY karyotype, but 52 patients out of 230 NOA (22.6%) have Klinefelter's syndrome (46,XXY) and remained 23 patients have variable X-chromosomal aberration. Through multiplex PCR for detection of microdeletion AZFb (sY143, sY129, sY135) / AZFc (DAZ, sY242, SPGY), variable degree of Y-chromosomal microdeletion was detected in 37.5% of NOA with X-chromosomal aberration and in 15.5% of total NOA patients.

There are usually some tiny foci of spermatogenesis which allow TESE with ICSI or round spermatid injection (ROSI) in NOA patients. At present an excisional testicular biopsy should be offered to all NOA patients after cytogenetic study and detection of microdeletion in Y-chromosome, irrespective of concentration of FSH, testicular size or medical history. Above all preimplantational genetic diagnosis should be considered in case of NOA with chromosomal aberration.