

溫度對精液分析的影響:初步報告

The effect of temperature on semen analysis: a preliminary report

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Study Question: What is the impact of different temperature on semen analysis ?

Study desing , Size, Duration :

This is a preliminary randomized study, ten male patient aged from 30-40 years old were recruited between May 2020 to July 2020 in our hospital.

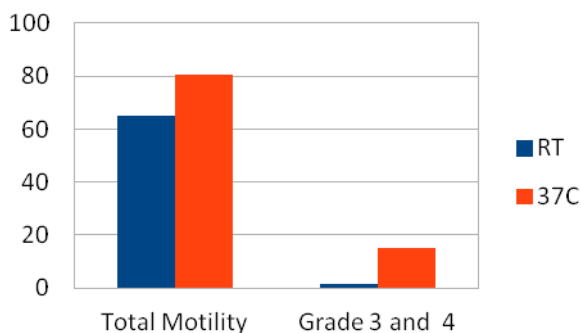
Materials, Setting, Methods :

Semen sample from patients was obtained by masturbation after a period of abstinence from 2-5 days. Each specimen was then divided into two equal aliquots, sample one was kept at room temperature (corresponding to $20^{\circ} \pm 3^{\circ} \text{C}$), and sample 2 was incubated at 37°C in incubator for 30 minutes before semen analysis. Semem quality was assessed according to standardized methods outlined in the Word Health Organization laboratory manual, including sperm motility and different grades of sperm motility. The motility was evaluated both by CASA (Computer Assisted Sperm analysis) and manually. In manual evaluation, the forward motility was visually determined at x 200 magnification by counting 5 randomly selected fields of 100 sperms. Result was expressed as mean motility, which was the calculated percentage of motile cells for the total specimen.

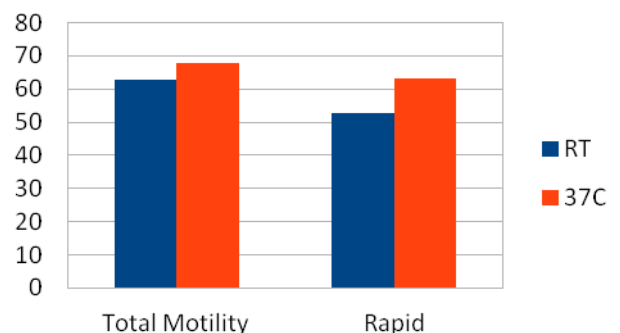
Main Results :

Under manual examination, the sperm motility is higher at 37°C compared to room temperature (RT : 65.1 % vs. $37^{\circ} \text{C} : 80.6\%$, $P < 0.$), and the percentage of sperm with progressive motility (grade 3 and 4) is also higher at 37°C when compared to room temperature (RT : 1.6% vs. $37^{\circ} \text{C} : 15.2\%$, $P < 0.$) (Fig.1).

As for the CASA examination, the result was also similar. Total sperm motility is higher at 37°C compared to room temperature (RT : 62.8% vs. $37^{\circ} \text{C} : 67.8\%$, $P < 0.$), and the rapid sperm ratio is higher at 37°C compared to room temperature (RT : 52.8% vs. $37^{\circ} \text{C} : 63.1\%$, $P < 0.$). (Fig.2)



(Fig.1)



(Fig.2)

Conclusion:

Despite the rapid progress in reproductive technology, semen analysis remains as the most basic and important examination for male infertility. With the advancement of reproductive technology, objective and repeatable data are amenable to statistical analysis. Therefore, standardization in the technique of semen analysis is important, and this must include how the specimen is handled prior to its examination. this study sets out to show how temperature affects semen, with particular reference to the effect on sperm motility.

(1)In our study, the effect of temperature on sperm motility, so there should be a consistent ambient temperature during operation, this data has clinical reference value.

(2)The sperm has better motility under the condition of higher temperature. Such results can be guessed because 37°C is closer to the physiological temperature. According to the results, Whether it can help in clinical artificially assisted reproduction?