COMPARISON OF TWO SPERM COUNTING CHAMBERS: MICROCELL AND STANDARD COUNT
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Objective:
Semen analysis remains an essential test for evaluation of male infertility. The main components of semen analysis are sperm count and motility. MicroCell counting chambers are proven devices for accurate measurement of sperm characteristics, while Standard Count was introduced recently. The purpose of this study was to compare the accuracy of MicroCell and Standard Count chambers in measuring sperm count and percent motility.

Design:
Laboratory experiment comparing MicroCell and Standard count counting chambers for semen analysis

Materials/Methods:
Semen specimens from 7 normal donors and 14 infertile patients were analyzed after 30 minutes of liquefaction on MicroCell (Conception Technologies, San Diego, CA) and Standard Count chamber (Mid Atlantic Diagnostics, Inc., Medford, NJ). Both counting chambers are disposable and have a fixed preparation depth of 20µm. Five microliters of semen were loaded on the chambers and analyzed both manually and by a computer assisted semen analyzer (CASA, Motion Analysis Corporation, Model VP 110, Santa Rosa, CA). The two methods were compared with paired t-tests and Lin's coefficient of concordance.

Results:
CASA results for Standard Count were significantly lower than MicroCell (mean difference 3.6 X 10^6/mL; p = 0.03. Using Standard Count, manual counts were on average 3.8 X 10^6/mL higher than CASA (p = 0.04). The manual counts between the two chambers were not significantly different (p = 0.07), however, Standard Count averaged 3.6 X 10^6/mL lower than MicroCell. In contrast, motility estimates were quite comparable between the two, with concordance of +0.95 using manual methods.

Conclusions:
MicroCell counting chambers and Standard Count analysis chambers are precise in their measurement of sperm concentration and motility. Standard Count can also be used successfully in an Andrology Laboratory for semen analysis purposes.

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