

MICRO-CELL CHAMBER AND WASHED HUMAN SPERMATOZOA

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With the development of the Makler counting chamber, the reproducibility and accuracy of computer-assisted semen analysis and of manual determination of sperm concentration and sperm motility were significantly enhanced beyond what is possible with other methods, such as the hemocytometer, the Horwell chamber, the Petroff-Hausser chamber, and Chartpak slides. The use of Micro-Cell, a disposable, self-filling counting chamber, gives accurate and reproducible results. The Micro-Cell chamber is found to be more accurate and precise than the Makler chamber in determining sperm concentration. This chamber has become popular for routine semen analysis of specimens after sperm washing for assisted reproductive techniques such as IUI because it eliminates error due to repeated handling, cleaning, and reassembly.

A study was undertaken to examine the influence of the Micro-Cell chamber on sperm parameters of washed human sperm used for IUI. Semen samples obtained from 26 patients with suspected subfertility were analyzed after swim-up on a Hamilton-Thorn motility analyzer with Micro-Cell and Makler counting chambers (see Fig. 1). Sperm parameters obtained with the Micro-Cell chamber decreased significantly between field 1 and field 4. However, field 1 and field 4 values did not differ significantly when the Makler chamber was used. The MicroCell chamber should therefore be carefully evaluated before routine use in analyzing washed semen.

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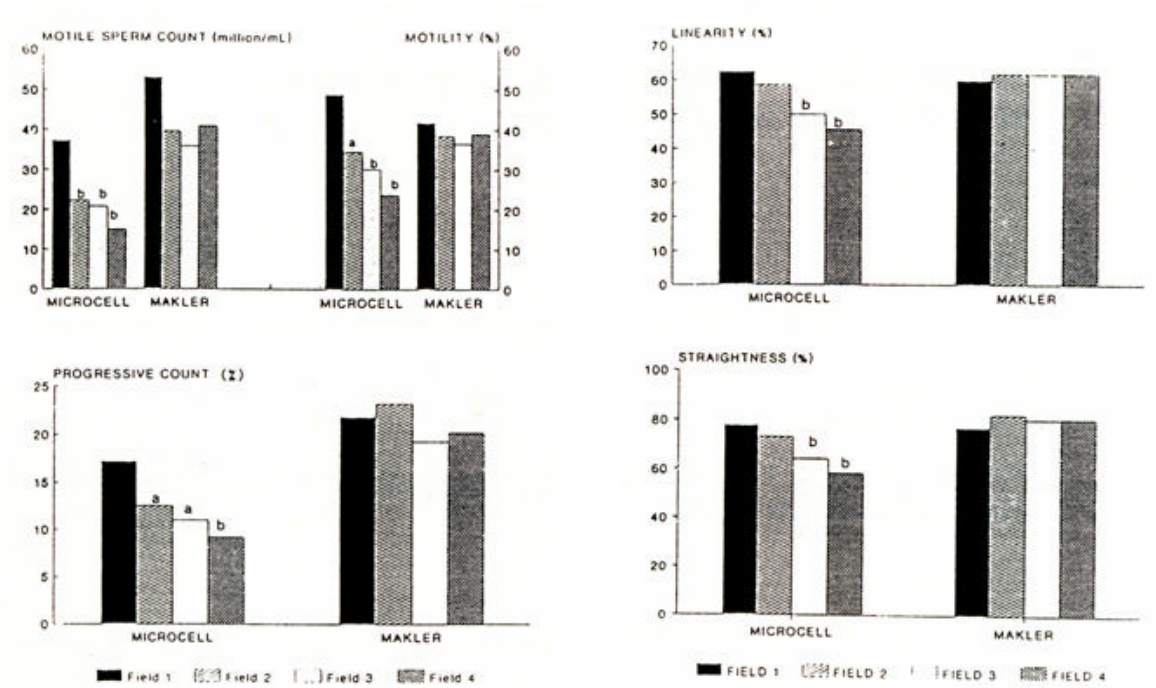


FIGURE 1 Changes in sperm motion parameters over time (measured with a Hamilton-Thorn motility analyzer) with use of a Micro-Cell or Makler chamber. When a Micro-Cell chamber was used for analysis, total motile sperm count, percentage motility, and percentage of progressive spermatozoa were found to be significantly lower in fields 2-4 than in field 1. Similarly, linearity and straightness values were reduced significantly in fields 3 and 4 from values in field 1; ^a $p < .05$; ^b $p < .01$.