

Reappraisal of the hypo-osmotic swelling test to improve assessment of seminal fertility status

SMITH,

MADARIAGA,

BUSTOS-OBREGON,

The hypo-osmotic swelling (HOS) test has been proposed as a useful assay for evaluation of the functional competence of the human sperm membranes. To assess this further, the HOS test was evaluated in 187 semen samples collected from fertile men and from male patients consulting for infertility. These samples were classified as normal, oligo-, astheno- or oligoasthenozoospermic on the basis of their standard semen variables. The percentage of total sperm tail swelling and of sperm exhibiting different tail swelling patterns was recorded. In the fertile men and in the group of patients with normal semen variables, significantly more ($P < 0.001$) HOS-reactive sperm were observed after hypo-osmotic treatment in comparison with those groups exhibiting abnormal semen parameters. Swelling of the sperm in a hypo-osmotic medium was highly correlated with both progressive motility ($r = 0.62$, $P < 0.001$) and sperm viability ($r = 0.65$, $P < 0.001$). A weak positive correlation was also observed between sp