

THE EFFECTS OF *UREAPLASMA UREALYTICUM* ON SPERM MOTION AND FUNCTIONAL CHARACTERISTICS. Jeannette Potts, Rakesh K. Sharma, and Ashok Agarwal, Cleveland, OH (Presented by Dr. Potts).

INTRODUCTION AND OBJECTIVES: *Ureaplasma urealyticum* (UU) is a commensal of the lower genitourinary tract of sexually experienced adults. Investigators have isolated UU with greater frequency in infertile marriages. To confirm a possible association between UU and infertility, we conducted a prospective study at our tertiary care center.

METHODS: Forty consecutive male patients seeking general urology consultation for lower urinary tract symptoms were evaluated. Urine and semen specimens were obtained for UU, *Chlamydia*, and localization cultures. Specimens from 21 normal donors were used as controls. Specimens were analyzed by a computer-assisted semen analyzer for concentration, percent motility, and sperm motion characteristics. In a second specimen from all subjects, the reactive oxygen species (ROS) level, presence of the acrosome reaction (AR), and mannose binding were determined.

RESULTS: Ten patients were positive for UU cultures; their other cultures were negative. UU-positive patients had significantly higher ROS levels (2449.3 ± 1342.7) than negative patients (773.5 ± 544.9) ($P = 0.02$) or donors (63.9 ± 30.9) ($P = 0.02$). UU-positive semen specimens also had poor concentration, motility and morphology, but these results did not significantly differ from UU-negative specimens. Among the three groups, AR and MBA results did not differ.

CONCLUSIONS: The seminal ROS level is elevated in UU-positive patients, which impair sperm function. ROS induces lipid peroxidation, decreasing membrane fluidity and sperm fertilizing capability.

SOURCE OF FUNDING: RPC#5825, Cleveland Clinic Foundation.