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Measurement of Pressure Changes in Rabbit Conceptus 7 to 10 Days Post Coitum. J.A. Mitchell^{*}, G. Driessen, H. Scheidt-Bleichert & H.-W. Denker. Department of Anatomy, Wayne State University, Detroit, MI & Abteilung Physiologie & Abteilung Anatomie, RWTH, Aachen, West Germany.

In order to establish the magnitude of and temporal changes in the pressure within in situ conceptuses during early pregnancy conceptus pressure was measured by the servo-nulling method employing a micro-pipette. Implantation site volume increased from 7 through 10 dpc: 0.16 ± 0.03; 0.57 ± 0.14; 1.66 ± 0.37 and 2.32 ± 0.73 cm³, respectively (day 7 vs 10 p < 0.01). Conceptus pressure declined between 7 through 10 dpc: 5.87 ± 1.53; 5.29 ± 1.53; 3.77 ± 0.95 and 3.18 ± 0.76 mmHg, respectively (day 7 vs 10 p < 0.05). Pressure fluctuated slightly: the frequency of change declined between 7 and 8 dpc (3.17 ± 1.25 to 1.59 ± 0.50 peaks/min; p < 0.01) and reached 1.08 ± 0.30 peaks/min at 10 dpc. Fluctuations in pressure correlated with myometrial contractions. The decline in conceptus pressure suggests that the uterine wall becomes increasingly compliant as blastocyst cavity/yolk sac fluid accumulates within the conceptus. Conceptus expansion resulting from internal pressure may enhance conceptus/uterine metabolic exchange by increasing the ratio of conceptus surface to cytoplasmic mass and by facilitating apposition of conceptusuterine surfaces. (*Alexander-von-Humboldt-Stiftung Forschungs-Stipendiat.)

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