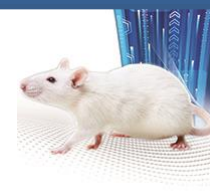


Exercise Impacts Pregnant Rat's Uterine Blood Flow



The effect of hypertension and diabetes on maternal circulation during pregnancy is of increasing interest. A study from Midwestern University measured uterine blood flow with Transonic 0.5 - 0.7 mm PSB perivascular ultrasound transit time flowprobes in non pregnant and then in late pregnant rats during five minutes of treadmill exercise.

The effect of hypertension and diabetes on maternal circulation during pregnancy is of increasing interest. To learn more about their effects, a research group from the College of Health Sciences, Midwestern University, Downers Grove, Ill, studied the effect of pregnancy on the uterine vasoconstrictor response to exercise in Sprague-Dawley rats. Previous studies had examined the decrease in blood flow to the uterus during treadmill exercise in non pregnant rats and rabbits. The group hypothesized that the rats, like the rabbits, would exhibit first a robust uterine vasoconstrictor response to short-term treadmill exercise which would attenuate in late pregnancy. They measured uterine blood flow with Transonic 0.5 - 0.7 mm PSB perivascular ultrasound transit time flowprobes in non pregnant and then in late pregnant rats during five minutes of treadmill exercise. The data gathered indicated that treadmill exercise triggers a reduction in uterine artery blood flow and vascular conductance in the rat. The degree of the response is blunted, but not eliminated during late gestation, thus protecting oxygen delivery to the fetus during exercise performed during late gestation. These findings were similar to those found earlier using the rabbit model.

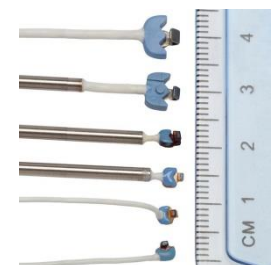
ORIGINAL RESEARCH

Effect of pregnancy on the uterine vasoconstrictor response to exercise in rats

Christopher J. Lashley, David A. Supik, James T. Atkinson, Robert J. Murphy, Kathleen P. O'Hagan.

[Physiol Rep.](#) 2015 Mar;3(3). pii: e12337. doi: 10.14814/phy2.12337.

<http://www.ncbi.nlm.nih.gov/pubmed/25804264>



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