

## **PREGNANCY IMPAIRS CENTRAL PROSTAGLANDIN RELEASE AND THE FEBRILE RESPONSE TO INTRAVENOUS IL-1 $\beta$ IN RATS**

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Rats have an attenuated febrile response to exogenous and endogenous pyrogen near the term of pregnancy. The present experiments were carried out on 12 nonpregnant and 12 pregnant Sprague-Dawley rats to test the hypothesis that pregnancy impairs the release of E series prostaglandins (PGE's) into the interstitial fluid of the organum vasculosum laminae terminalis (OVLT) following intravenous administration of recombinant rat interleukin-1 $\beta$  (rrIL-1 $\beta$ ). Interstitial fluid of the OVLT was sampled in chronically-instrumented, conscious rats by microdialysis and PGE's were determined by radioimmunoassay. Basal OVLT PGE's were similar in nonpregnant and pregnant rats. Intravenous administration of rrIL-1 $\beta$  produced significant increases in OVLT PGE's and core temperature in nonpregnant rats. In near-term pregnant rats, however, neither OVLT PGE's nor core temperature increased significantly following I.V. administration of rrIL-1 $\beta$ . Intravenous administration of vehicle did not significantly alter OVLT PGE's or core temperature in either group of rats. Thus, our data support the hypothesis that pregnancy impairs the release of PGE's into the interstitial fluid of the OVLT following intravenous administration of rrIL-1 $\beta$ . Perhaps rrIL-1 $\beta$  does not elicit a normal end-mediator response because there is an alteration in the number or properties of cytokine receptors near the term of pregnancy, or, alternatively, there may be increases in the circulating levels of IL-1 receptor antagonist in rats as there is in humans near the term of pregnancy. These possibilities warrant further investigation.

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