Vascular smooth muscle reactivity to norepinephrine in ovariectomized rats: Relationship to vascular PGE2/PGF2? ratio

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1. 1. We have recently demonstrated that, in normal female rats, vascular reactivity (VR) and vascular prostaglandin-E2 (PGE2) and prostacyclin production are influenced by the ovarian cycle. 2. 2. In this study, we investigated the vascular reactivity (VR) of isolated rat thoracic aorta to norepinephrine (NE 10-12-10-6M) in ovariectomized rats (OVX-rats), 48 hr and 8 days after surgical removal of the ovaries and in normally cycling rats (NR) at the proestrus stage of the estrous cycle, when the level of circulating estrogen was higher. 3. 3. In addition, we determined the vascular synthesis of PGE2 and protaglandin-F2? (PGF2?) in both groups of OVX-rats, and in NR during the proestrous stage. 4. 4. The results showed that VR to NE 10-12-10-10 M was similar between OVX-rats and normal rats. 5. 5. However, aortic rings obtained from both groups of OVX-rats showed a significant increase of the contraction response induced by NE 10-9-10-6 M. 6. 6. Furthermore, the contractile response to