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Obstetrics

HYDRALAZINE, MATERNAL BLOOD PRESSURE AND FETAL CIRCULATION Hydralazine (Apresoline) is used therapeutically in toxemia of pregnancy to lower arterial blood pressure. The hypotensive effect has been reported to be associated with increases in cardiac output and in renal, cephalic, femoral, and splanchnic blood flows. The effects on uteroplacental and fetal circulations of hydralazine injected either into the mother or into the fetus or the neonate were investigated in near-term normotensive pregnant sheep. Intravenous doses of 0.2–0.5 mg/kg given to the mother decreased maternal arterial pressure and uterine blood flow to equivalent degrees; uterine vascular resistance did not change. Although fetal cardiovascular function was not appreciably affected, fetal blood P_{O_2} decreased significantly in the face of no change in maternal arterial P_{O_2}. When injected directly into the fetal circulation, hydralazine reduced fetal arterial pressure only after the administration of a dose 10 to 15 times that given to the mother; no alterations occurred in the fetal blood flow measured in the ascending aorta, the ductus, or the main pulmonary artery; fetal blood gases and *p*H remained unchanged. The lack of responsiveness of the fetus at term to direct administration of hydralazine suggests that the receptors acted upon by this drug may be incompletely developed (at least in the sheep) or that the magnitude of the placental circulation (a low-resistance system which contains the major portion of fetal blood volume) masks the magnitude of the vascular response within the fetus proper. Evidence for this is suggested by the fact that injection of hydralazine into the fetal circulation after the cord is clamped does produce a modest, albeit measurable, rise in blood pressure. (*Larner, C. N., Weston, P. V., Brinkman, C. R., III, and Assali, N. S.: Effects of Hydralazine on Uteroplacental and Fetal Circulation, Amer. J. Obstet Gynec. 108: 375–381 (Oct.) 1970.*) EDITOR'S COMMENT: This represents a valuable study toward a fundamental understanding of differences between the responses of maternal and fetal circulations to hypotensive drugs. Caution must be exercised when transferring these data obtained in normotensive animals to the hypertensive pregnant subject. The authors do indicate that such studies in hypertensive animals and patients are presently under way. We look forward to these data with great interest.