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Role of Platelet Activating Factor as a Mediator of Inflammatory Diseases and Preterm Delivery
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Abstract
Nearly 70% of preterm deliveries occur spontaneously, and the clinical pathways involved include preterm labor and preterm premature rupture of membranes. Prediction of preterm delivery is considered crucial due to the significant effects of preterm birth on health and the economy at both the personal and community levels. Although similar inflammatory processes occur in both term and preterm delivery, the premature activation of these processes or exaggerated inflammatory response triggered by infection or sterile factors leads to preterm delivery. Platelet activating factor (PAF) is a phosphoglycerylether lipid mediator of inflammation that is implicated in infections, cancers, and various chronic diseases and disorders including cardiovascular, renal, cerebrovascular, and central nervous system diseases. In gestational tissues, PAF mediates the inflammatory pathways that stimulate the effector mechanisms of labor, including myometrial contraction, cervical dilation, and fetal membrane rupture. Women with preterm labor and preterm premature rupture of membranes have increased levels of PAF in their amniotic fluid. In mice, the intrauterine or intraperitoneal administration of carbamyl PAF activates inflammation in gestational tissues, thereby eliciting preterm delivery. This review summarizes recent research on PAF as an important inflammatory mediator in preterm delivery and in other inflammatory disorders, highlighting its potential value for prediction, intervention, and prevention of these diseases. © 2024 American Society for Investigative Pathology

Index Keywords
thrombocyte activating factor, thrombocyte activating factor receptor, thrombocyte activating factor; Alzheimer disease, amnion fluid, anaphylaxis, asthma, atherosclerotic plaque, bladder cancer, brain infarction, brain ischemia, breast cancer, coronary artery disease, decidua, demyelination, diabetic nephropathy, endometrium cancer, experimental autoimmune encephalomyelitis, fetus membrane, food allergy, gene expression, heart infarction, hemolytic uremic syndrome, human, immunoglobulin A nephropathy, inflammatory disease, intracellular signaling, ischemic stroke, lung adenocarcinoma, meningioma, meningoencephalitis, MPTP-induced parkinsonism, multiple sclerosis, myometrium, nonhuman, ovary cancer, ovary carcinoma, Parkinson disease, peripheral nerve injury, placenta, positive feedback, premature labor, premature myocardial infarction, protein degradation, protein expression, protein induction, protein protein interaction, protein synthesis, Review, sepsis, signal transduction, spinal cord injury, thyroid carcinoma, uterine cervix, uterine cervix cancer, animal, female, inflammation, metabolism, pathology, pregnancy, premature labor, premature rupture of membranes, prematurity; Animals, Female, Fetal Membranes, Premature Rupture, Humans, Inflammation, Obstetric Labor, Premature, Platelet Activating Factor, Pregnancy, Premature Birth

Chemicals/CAS
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