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KUANTAN 2024
9TH MEDICAL RESEARCH SYMPOSIUM

37TH MSPP ANNUAL SCIENTIFIC MEETING

in conjunction with

9TH MEDICAL RESEARCH SYMPOSIUM

ABSTRACT BOOK

INTEGRATING MISSION ORIENTED RESEARCH IN MEDICAL SCIENCES

WED & THU
11 & 12 SEPT 2024

TIME
8:00AM - 5:00PM

VENUE
AC HOTEL BY MARRIOTT
KUANTAN, PAHANG, MALAYSIA

S015

Early Postpartum Alterations in Blood Pressure, Vasoactive Mediators, and Inflammatory Markers in L-NAME-Induced Hypertensive Rats

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Introduction: Hypertensive disorders of pregnancy (HDP) affect 5% to 10% of pregnancies globally and increase the risk of cardiovascular disease (CVD) in women, despite postpartum blood pressure normalization. The mechanisms underlying this elevated risk remain unclear. This study investigates blood pressure variations, vasoactive mediator levels, and inflammatory markers in L-NAME-induced hypertensive rats during the early postpartum period. **Materials and method:** Normal control and L-NAME-induced hypertensive rats were monitored for blood pressure changes before pregnancy, at gestational day 19, and postpartum days 7 and 30. L-NAME, an inhibitor of nitric oxide (NO) synthesis, was utilized to induce hypertension. At postpartum day 30, rats were euthanized, and blood samples were analysed for various vasoactive mediators and inflammatory markers using ELISA. **Results:** The mean arterial pressure of the L-NAME group significantly increased and peaked at day 13 of pregnancy and reduced post-delivery. The mean concentrations of endothelin-1, interleukin-8, and C-reactive protein were higher in the L-NAME group compared to the control group, although these differences were not statistically significant. The mean concentrations of NO and plasminogen activator inhibitor-1 were lower in the L-NAME group compared to the control group, yet these differences were also not statistically significant. **Conclusion:** L-NAME- induced hypertensive rats demonstrate elevated blood pressure during pregnancy, with partial normalization postpartum. Despite the absence of statistically significant differences in vasoactive mediators and inflammatory markers between hypertensive and control groups, the observed trends underscore the need for further investigation. Elucidating the molecular pathways and mechanisms by which hypertensive disorders of pregnancy contribute to early- onset cardiovascular disease is crucial for advancing our understanding and improving clinical outcomes.

Keywords: Hypertensive disorders of pregnancy; cardiovascular disease; endothelin-1; nitric oxide; plasminogen activator inhibitor-1; C-reactive protein; interleukin-8