

ABSTRACT

**ANALYSIS OF LOW-DOSE ASPIRIN THERAPY
ON THROMBOXANE B2 LEVELS AS A PREVENTIVE THERAPY
FOR HYPERTENSION IN PREGNANCY
(Study at obstetric unit of Haji Teaching Hospital and
Wonokromo Primary Health Care Center Surabaya)**

Background – Low-dose Aspirin is a preventive therapy for hypertension in pregnancy. Mechanism of action of aspirin is done by blocking the cyclooxygenase enzyme that can inhibit the formation of thromboxane A₂ (TxA₂). It has a role in balancing vasoconstriction and vasodilatation associated with endothelial dysfunction that occurs in the hypertension in pregnancy. In the blood, TxA₂ will be converted to Thromboxane B₂ (TxB₂) in the fixed ratio. TxB₂ is a biomarker for platelets hyperaggregation.

Objective - The aim of this study was to analyze low-dose aspirin use on thromboxane B₂ levels as a preventive therapy for hypertension in pregnancy.

Method - This prospective and observational study had been approved by the ethics committee of the Haji Hospital in Surabaya. The Patients aged between 25 – 45 years old. Data was collected from July to September 2018. Thromboxane B₂ levels were measured before and after the use of 80 mg aspirin for 14 – 30 days. Blood sample were obtained in the morning at 09.00 – 11.30 am. The collected serum samples were analyzed using immunoassay method.

Result - Eighteen patients were recruited in this study. The majority was 36 – 45 years old with blood pressure in the mild hypertension category. The result showed there was an increased trend with a percentage of 30% ($p>0.05$) in the group that did not get aspirin. While the patient who received aspirin was divided into new and old patients. There was an increased Thromboxane B₂ levels with a percentage of 6% ($p>0.05$) in the old group. In other hand, thromboxane B₂ levels decreased 55% from 9.810 ± 8.818 ng/ml to 4.413 ± 2.219 ng/ml ($p>0.05$) in the new group.

Conclusion – The use of 80 mg aspirin as a preventive therapy for hypertension in pregnancy did not cause reduction in thromboxane B₂ levels

Keywords: Low-dose Aspirin, Hypertension in pregnancy, Thromboxane B₂, Platelet Aggregation