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 observasional 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