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COMPARISON OF BLOOD PLATELET THROMBOXANE A_2 IN NORMAL AND DIABETIC SUBJECTS

Supatta Temboonkiat* and Kanchana Ketsa-ard**

*Department of Pharmacy, Pramongkutklao Hospital and **Department of Pharmacology, Faculty of Medicine, Siriraj Hospital, Mahidol University, Bangkok 10400, Thailand

The superfusion bioassay of thromboxane A_2 (TXA₂) in blood platelets of normal subjects, diabetic patients with and without diabetic retinopathy was studied. The patients with diabetic retinopathy were on aspirin for treatment of their retinopathy. The washed platelet suspension was prepared from platelet-rich plasma (PRP). Bioassay of TXA₂ in thrombin-treated platelet suspension was carried out using the rabbit aorta superfusion technique at 37°C. Estimated TXA₂ was a relative value by assuming the TXA₂ level of normal subjects to be 1.00. The diabetics without aspirin treatment had high concentrations of TXA₂ (2.27 ± 1.69), while the TXA₂ concentration of the diabetics with aspirin-intake was low (0.66 ± 0.40). The relative TXA₂ concentrations of normal and diabetic with aspirin-intake groups were significantly different from that of the diabetic without aspirin group ($p < 0.001$). The difference of the relative TXA₂ concentrations in normal and diabetic with aspirin-intake groups was also statistically significant ($p < 0.05$). This indicated that diabetic patients tended to have higher concentration of TXA₂ than normal subjects and this might be a cause of several vascular complications in diabetes mellitus. In addition, aspirin does reduce the TXA₂ concentrations.