THE EFFECT OF SELECTIVE COX-2 INHIBITOR ON BLOOD CLOTTING IN RAT

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Introduction
NSAIDs are widely used to relieve pain and inflammation. The therapeutic effects are often burdened by the risk of gastrointestinal bleeding. Selective COX-2 inhibitor drugs offer reduced risk of gastrointestinal bleeding, but in the other hand increase cardiovascular risk due to blood coagulation and thrombosis. Inhibition of COX-2 enzyme reduces systemic production of prostacyclin and is hypothesized to shift the hemostatic balance toward protrombic state. In this study we observed the effect of selective COX 2 inhibitors on blood coagulation.

Material and Method
Twenty Sprague Dawley rats were divided into 4 groups (n=5, each), treated with placebo (group I), Diclofenac (1 mg/kgBW; group II), Celecoxib (1,4 mg/kgBW; group III), and Celecoxib (7 mg/kgBW; group IV), respectively, per oral for 3 consecutive days. On day 10, the tail of the rat was cut and let the blood dripped for 1 (one) minute than the blood was compared to each the other groups. Data was analyzed with ANOVA and Tukey's post hoc.

Results
In this study we observed that the number of blood drops in Celecoxib-treated groups (IV (13.20±6.61) and III (28.20±6.02)) were significantly decreased in dose-dependent manner compared to Diclofenac (II(41.40±10.97)) and Placebo (I (65.0±8.09)) treated groups ($P<0.05$). The number of blood drops in high dose celecoxib treated group (IV) was significantly smaller compared to low dose celecoxib treated group (III).

and Conclusion
We conclude that selectively inhibition of COX- 2 enzyme will increase blood coagulation. Further study is recommended to observe the more precise parameter in blood coagulation and the risk of intravascular blood coagulation or thrombus formation.