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**Abstract Title**: EFFECT OF VARIOUS ANTI-PLATELET DRUGS ON *EX VIVO* EQUID HERPESVIRUS TYPE 1-INDUCED PLATELET ACTIVATION

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**Abstract**:

Equid herpesvirus type 1 (EHV-1) disease syndromes, such as abortion and equine herpesvirus myeloencephalopathy, are associated with thrombosis. We have found that EHV-1 activates platelets *in vitro*, inducing alpha-granule release and microvesiculation, possibly contributing to the thrombosis observed in infected horses. Identifying a drug that inhibits these procoagulant effects may help prevent thrombosis in infected horses.

Our objective was to evaluate standard anti-platelet drugs for inhibition of EHV-1-induced platelet activation *ex vivo*. In a double-blinded study, 12 healthy horses were treated for 5 days with 4 platelet inhibitors (aspirin, clopidogrel, pentoxifylline and theophylline) or placebo followed by a 3-week washout period between treatments. Platelet-rich plasma (PRP) was prepared from citrated blood obtained before treatment and 4 hours after the final drug dose. Platelets were exposed to 2 EHV-1 strains (at 1 plaque forming units/cell) or controls for 10 minutes then platelet activation was assessed by quantifying the percentage of platelets expressing P-selectin and the percentage of platelet-derived microparticles (PDMP, small events positive for Annexin V) with flow cytometry.

Mean percentages of P-selectin-positive platelets and PDMPs did not differ significantly between time points (pre- and post-treatment) for each drug, except for platelets exposed to positive control. Similarly, no significance differences in P-selectin-positive platelet or PDMP percentages were observed between drugs at either time point. Dosing of horses with standard platelet inhibitors does not affect EHV-1-induced platelet activation *ex vivo*, suggesting these drugs will not be optimal for thromboprophylaxis in EHV-1 infected horses.