

TRANSFUSION MEDICAL PHARMACOLOGY:

*abciximab* selectively interferes with binding of human anti platelet auto- and alloantibodies to GPIIb/IIIa as monitored by PSIFT and MAIPA (2000) ISBT Abstract Nr. P064

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MAIPA and PSIFT are amongst the most important immunological methods in platelet serology. While *abciximab* is used to prevent thromboembolism thrombocytopenia may develop dependent on or independently from *abciximab*. Since *abciximab* is constructed according to new important principles, comparable drugs will follow. Therefore we have performed controls whether in PSIFT and MAIPA *abciximab* might lead to false positive and/or false negative results.

For every experiment *abciximab* was used in concentrations 20 x above and 5 x below the eutherapeutic range.

In order to control for false positive results PSIFT and MAIPA assays were performed using negative sera. From the negative results we conclude that the POX-bound anti-human IgG/IgM does not bind to *abciximab*. Therefore it is unlikely that the presence of *abciximab* in general will lead to false positive results in MAIPA and PSIFT.

When interference of *abciximab* with binding of platelet allo- or autoantibodies was investigated, however, the following was shown: (1) There is mutual hindrance of *abciximab* and antibodies, even in therapeutic concentrations of *abciximab*. (2) The interference is specific for GP IIb (CD 41). No interference, however, occurs with antibodies binding to GP Ia/IIa or Ib/V/IX or CD 42a. (3) The interference is not restricted to the HPA 1a or 1b or 3a or 3b conformation of GP IIb/IIIa alone, respectively. Even antibodies directed broadly against GP IIb/IIIa are hindered. (4) The binding strength of the GP IIb/IIIa specific antibodies and of *abciximab* and the therapeutic concentration range of *abciximab* are in the same order of magnitude.

Therefore, one has to be aware of false negative results when searching for platelet directed antibodies by MAIPA and/or PSIFT, in the presence of *abciximab*. Whether or not this is also true for other comparable drugs has to be established. Maybe in the future the mutual hindrance could be used therapeutically, e.g. for intervening against adverse effects of other drugs in the context of medication- induced immune thrombocytopenias.