STUDY ON THE EFFECT OF DDAVP ON FACTOR VII-
RELATED PROPERTIES IN HEMOPHILIA AND VWD

N. Ciavarella, S. Solinas, D. Pilolli, P. Ranieri,
D. Corraro, S. Antoncicchi and G. Mariani. Institute
of Clinical Medicine, University of Bari and Institute
of Hematology, University of Rome, Italy.

Twenty-one patients affected by mild and moderate
Hemophilia A as well as 9 patients with the classic
form of vonWillebrand’s disease (vWD) were given
a total of 58 infusions of DDAVP. Concerning
Hemophilia a a three fold mean raise ( X = 3.0, sem
0.19; range of ratios post/preinfusion 1.35 - 5.55)
of factor VIII:C levels was observed after the
infusion of 0.3 µg/Kg b.w. A mean raise of 3.44
( sem 0.48, range 2.20 - 6.7) after the infusion of
0.4 µg/Kg was found. The difference between the two
regimens is not statistically significant (p > 0.5).
As to the vWD 18 infusions were given. In 6 patients
the changes of factor VIII:C, VIII:Ag and VIII:vWF
were roughly consensual ( ratios post/preinfusion ranging from 2.2 to 4.0 for VIII:C from 1.8 to 3.5
for VIII:Ag and from 3.1 to 6.2 for VIII:vWF). In
the remaining 3 patients a very strong response of
VIII:C ( ratios post/preinfusion 12.0, 15.1 and 6.5)
was observed. Also the other properties related
to factor VIII underwent to relevant increase.
In one of these patients a modified electrophoretic
mobility of factor VIII was found; the other two
(father and daughter) had a normal factor
VIII mobility after stimulation with DDAVP.

STUDY ON LONG TERM TOLERANCE AND RECOVERY OF COLD
STERILIZED PPSB IN CHIMPANZEE. W. Stephan1, A. M.
Prince2, R. Kotitschke2. 1Biotest-Serum-Institut
GmbH, Frankfurt am Main, W. Germany, 2New York
Blood Center, New York, N.Y., USA

Recent experiments have shown, that PPSB (factor
IX-concentrate) derived from 6-propiolactone/ultra­
violet(6-PL/UV)-treated (cold sterilized)plasmas
is not infectious in chimpanzees in respect to hepa­
titis B and Non A-Non B. To answer the ques­
tion whether the 6-PL/UV treatment influences the
tolerance and efficacy of the cold sterilizedPPSB-
concentrate, long term application of PPSB-Biotest
was performed in chimpanzees.

After 12 applications of 25 units factor IX/kg
in weak intervals no signs of intolerance were
observed by means of skin testing and observation
of blood pressure during i.v. application. Deter­
mination of coagulation factor activity during
the application period shows the same factor IX-
recovery at the beginning and at the end of the
study.

STUDY ON THE EFFECT OF DDAVP ON FACTOR VIII-
RELATED PROPERTIES IN HEMOPHILIA AND VWD

W. Stephan1,  A. M. Prince2, R. Kotitschke2. 1Biotest-
Serum-Institut GmbH, Frankfurt am Main, W. Germany, 2New York
Blood Center, New York, N.Y., USA.

In hemophilia A patients with inhibitor to Factor VIII,
prothrombin complex, concentrates were found effective in
treating hemorrhagic episodes. However, in several
patients DIC or thromboembolic complications developed.
Some of the manufacturers have altered production methods
eliminating certain activated coagulation factors from
the preparations. After these modifications some of
these preparations were found to be less effective clini­
cally. In the first study, we compared potential thrombo­
genocity of two preparations: Autoplex and FEIBA and as
control prothrombin complex preparation with no appreci­
able activated factor content (Prothromplex) for the
ability to induce thrombosis in an isolated segment of the
renal vein of C57BL/J (J), ICR/HA male mice, and Sprague-
Dawley male rats. The minimum thrombosis inducing dose
was 200 prothrombin complex units per kilogram of Pro-
thromplex, 25 FEIBA units of FEIBA and 0.45 FEIBA units
of Autoplex. The fact that Autoplex is approximately 51
times more active than FEIBA can probably be explained by
the fact that the latter contains more factor IIa and Xa
activity than the former.

THROMBOPENICITY RESULTS OF COLD STERILIZED
(6-PROPIOLACTONE/ULTRAVIOLET IRRADIATION) PPSB
IN CHIMPANZEE. R. Kotitschke1, W. Stephan1,
A. M. Prince2,3 and B. Brotman2,3. 1Biotest-
Serum-Institut GmbH, Frankfurt am Main, W. Germany; 2New York
Blood Center, New York, N.Y., USA;
3The Liberian Institute for Biomedical Research,
Robertafeld, Liberia.

In vitro tests were demonstrated to be insuffi­
cient for the determination of the thrombogenic­
ity of PPSB preparations with peptide substrates
or the TGT50 and the NAPPT. Unequivocal determi­
nations of the thrombogenicity of PPSB prepara­
tions are possible only up to now in in vivo models.
As an alternative to the up to now proposed dog
or hemophilia B dog models we have determined the
thrombogenicity of cold sterilized PPSB in chim­
panzees. PPSB isolated from 6-propiolactone trea­
ted and UV irradiated plasma was injected into
the chimpanzees at a dose of approximately
100 units/kg body weight. An FDA licensed PPSB
preparation served as a control.

15 minutes, 1 h, 4 h, and 24 h after the PPSB
application the following parameters were deter­
mained in the chimpanzee blood: factors II, VII,
IX, X, VIII, fibrinogen, AT III, thrombin coagu­
lase, Quick value, APTT and platelet count.

Neither the untreated control preparation nor
the PPSB from 6-propiolactone treated and UV
irradiated plasma showed signs of a thrombogenic
effect in this chimpanzee model.

THROMBOPENICITY OF ANTIHEMOPHILAC PREPARATIONS WITH
FACTOR VIII INHIBITOR BYPASSING ACTIVITY. D.J. Malewski, 
J.L. Ambrus, C.M. Ambrus, K. Tournay. Roswell Park Mem­
orial Institute and the State University of New York at
Buffalo, Buffalo, NY USA.

In hemophilia A patients with inhibitor to Factor VIII,
prothrombin complex, concentrates were found effective in
treating hemorrhagic episodes. However, in several
patients DIC or thromboembolic complications developed.
Some of the manufacturers have altered production methods
eliminating certain activated coagulation factors from
the preparations. After these modifications some of
these preparations were found to be less effective clini­
cally. In the first study, we compared potential thrombo­
genocity of two preparations: Autoplex and FEIBA and as
control prothrombin complex preparation with no appreci­
able activated factor content (Prothromplex) for the
ability to induce thrombosis in an isolated segment of the
renal vein of C57BL/J (J), ICR/HA male mice, and Sprague-
Dawley male rats. The minimum thrombosis inducing dose
was 200 prothrombin complex units per kilogram of Pro-
thromplex, 25 FEIBA units of FEIBA and 0.45 FEIBA units
of Autoplex. The fact that Autoplex is approximately 51
times more active than FEIBA can probably be explained by
the fact that the latter contains more factor IIa and Xa
activity than the former. 