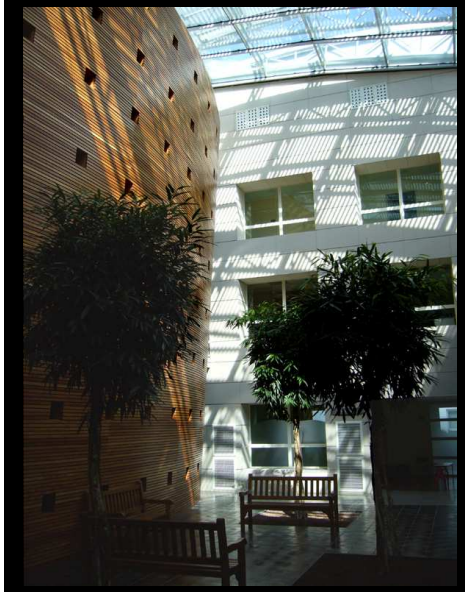
Expérience de l'acide tranexamique en chirurgie orthopédique



Denis Jochum
Hôpital Albert Schweitzer - Colmar

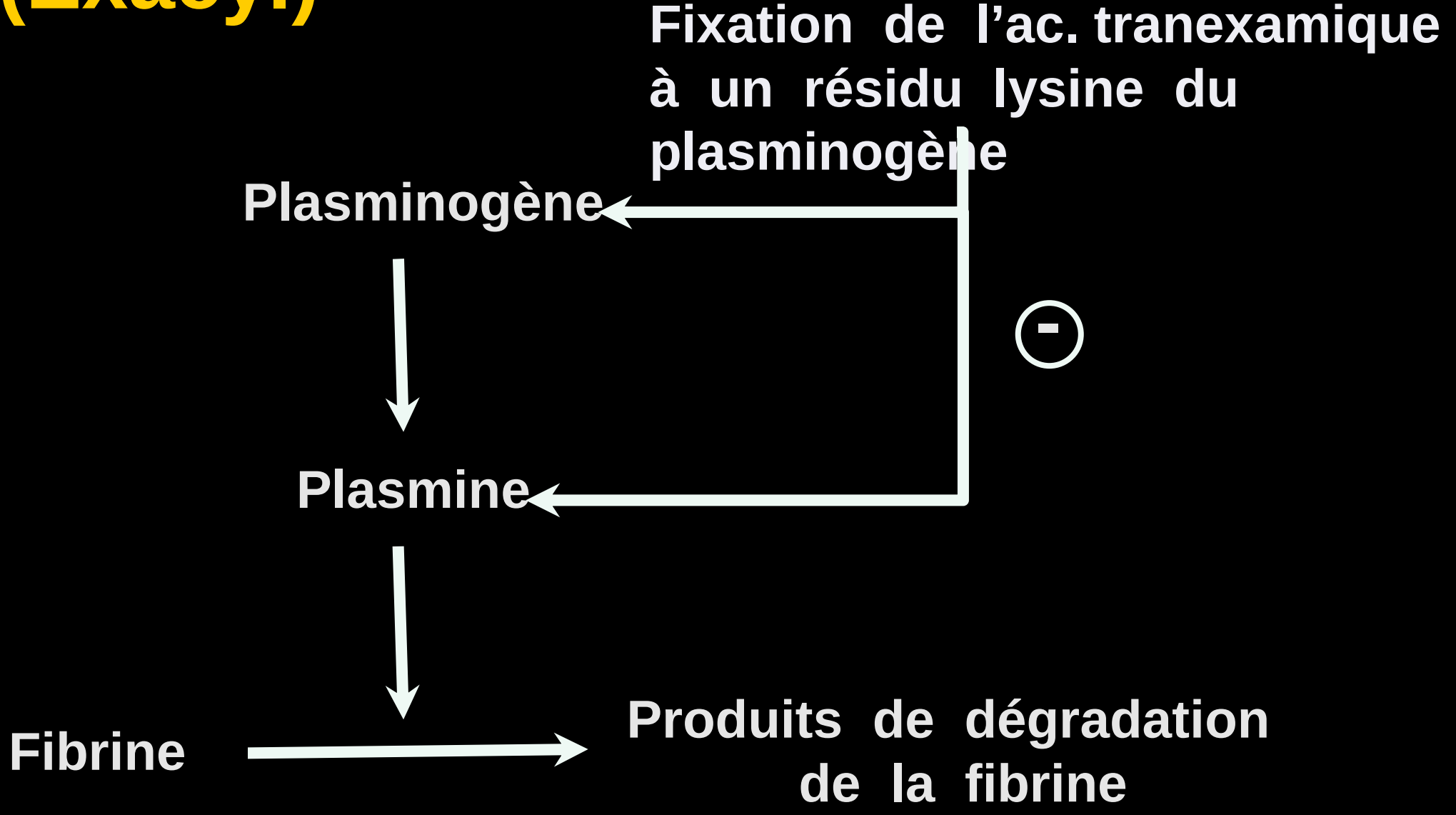
Coagulation

Fibrinolyse

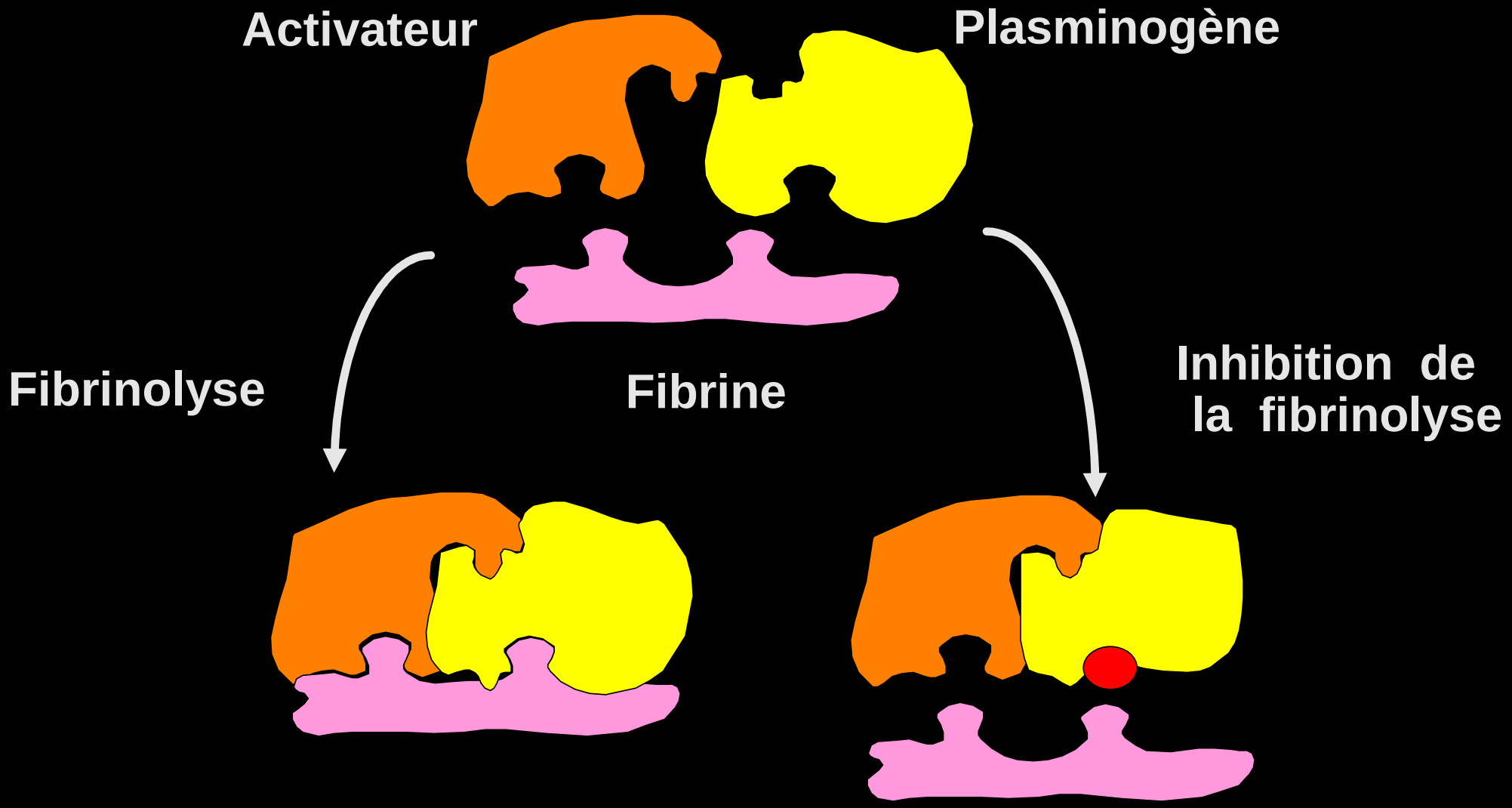
lésion tissulaire → saignement → coagulation

fibrinolyse ⊖

Fibrinolyse et acide tranexamique (Exacyl)



Fibrinolyse et acide tranexamique



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Review Article

Use of antifibrinolytic therapy to reduce transfusion in patients undergoing orthopedic surgery: A systematic review of randomized trials

Yoan K. Kagoma [a], Mark A. Crowther [b,*], James Douketis [b], Mohit Bhandari [c], John Eikelboom [b], Wendy Lim [b]

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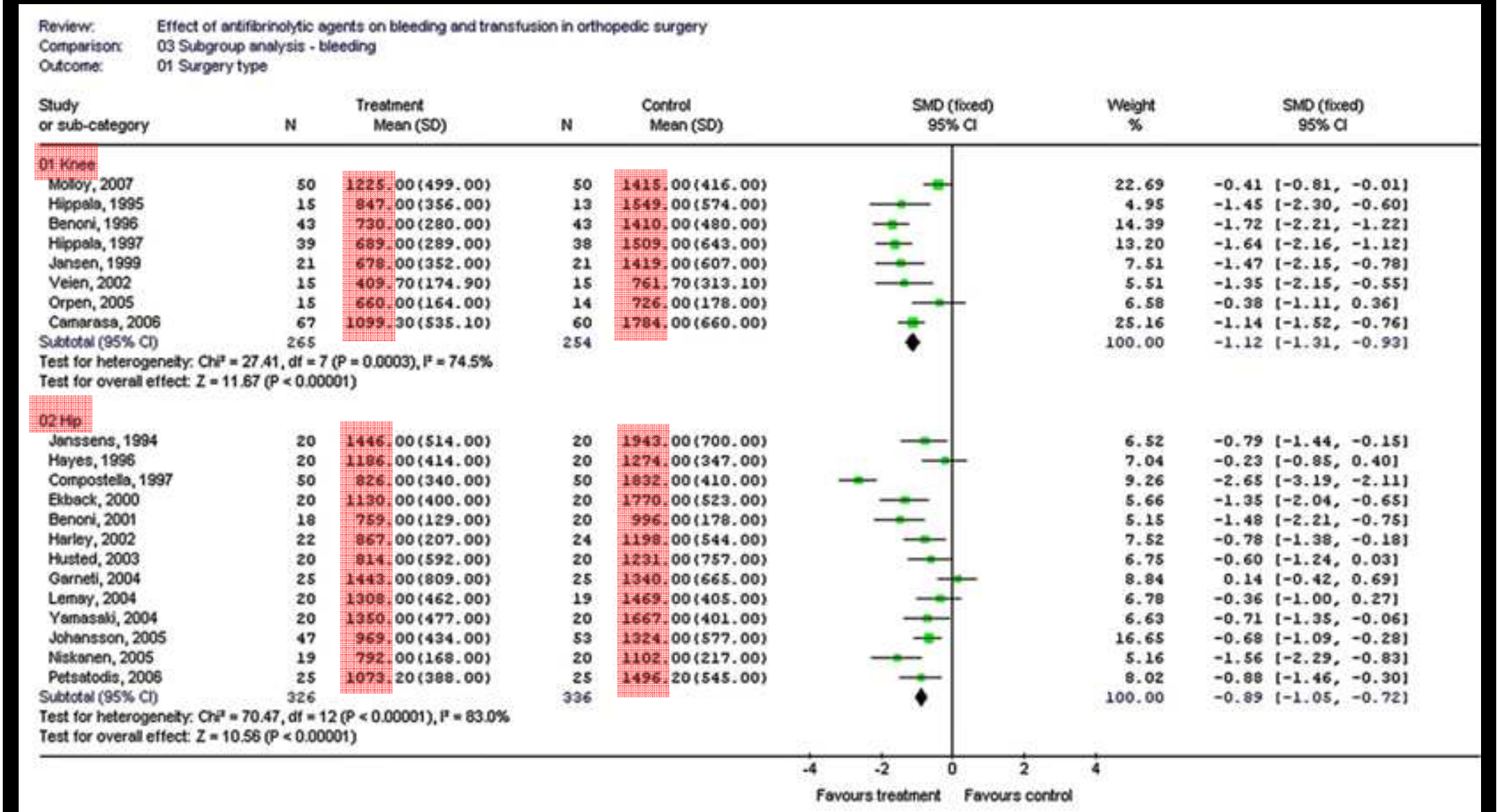
To date, use of antifibrinolytic agents in patients undergoing elective THR and TKA has been limited. Our results indicate that they may reduce bleeding by at least 300 mL and reduce (by about 50%) or eliminate the need for transfusion in many patients.

Results: Patients receiving antifibrinolytic agents had reduced transfusion need (RR 0.52; 95% CI, 0.42 to 0.64; $P<0.00001$), reduced blood loss and no increase in the risk of VTE (RR 0.95% CI, 0.80 to 1.10, $I^2=0\%$, $P=0.531$). *Conclusions:* We conclude that antifibrinolytic agents may reduce bleeding and transfusion in patients undergoing THR or TKA who receive appropriate antithrombotic prophylaxis. There is a need for a large, adequately powered prospective study to carefully examine the safety and efficacy of these agents.

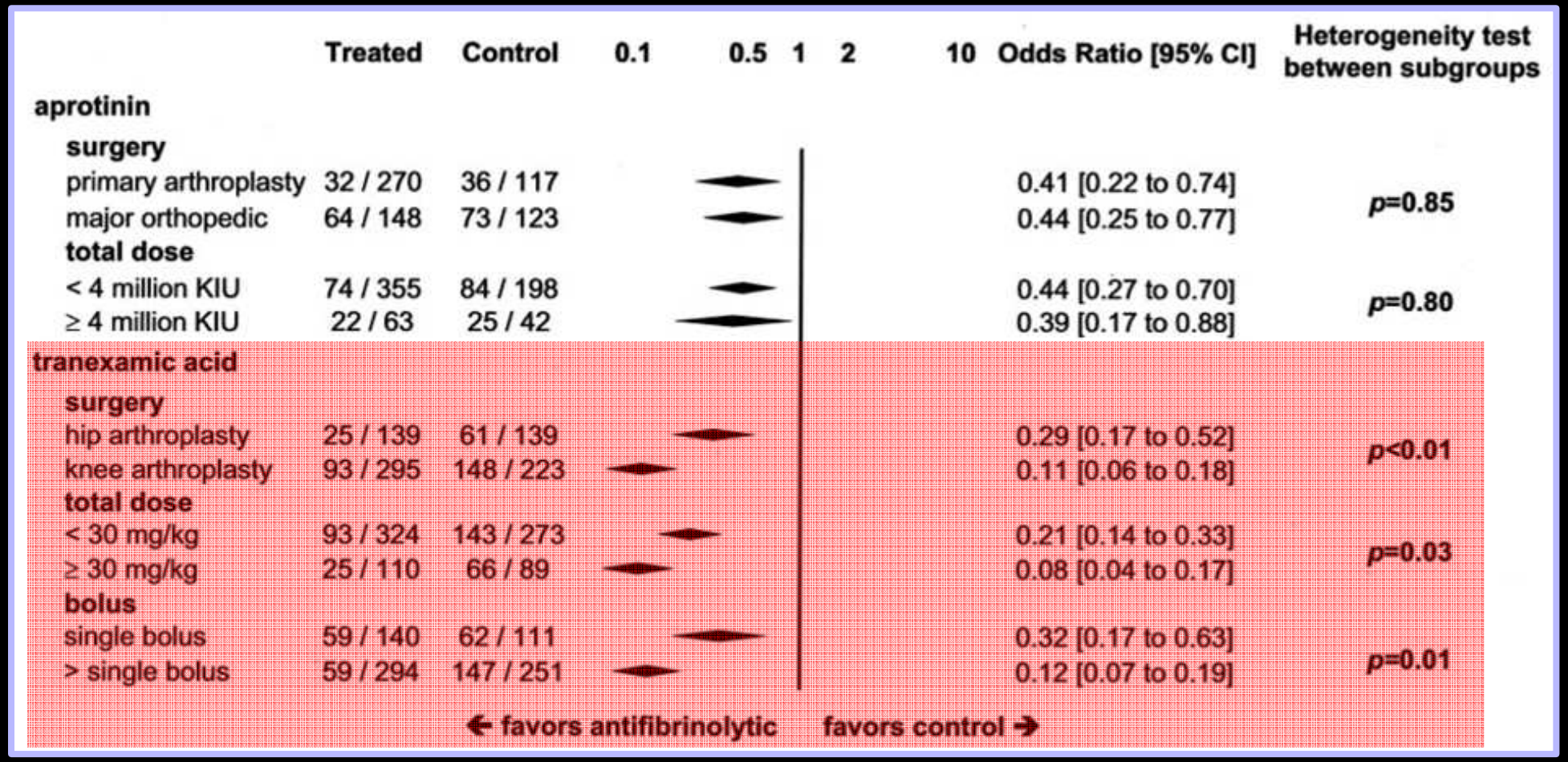


Impact of antifibrinolytic agents on bleeding by surgery type: estimated reduction in bleeding.

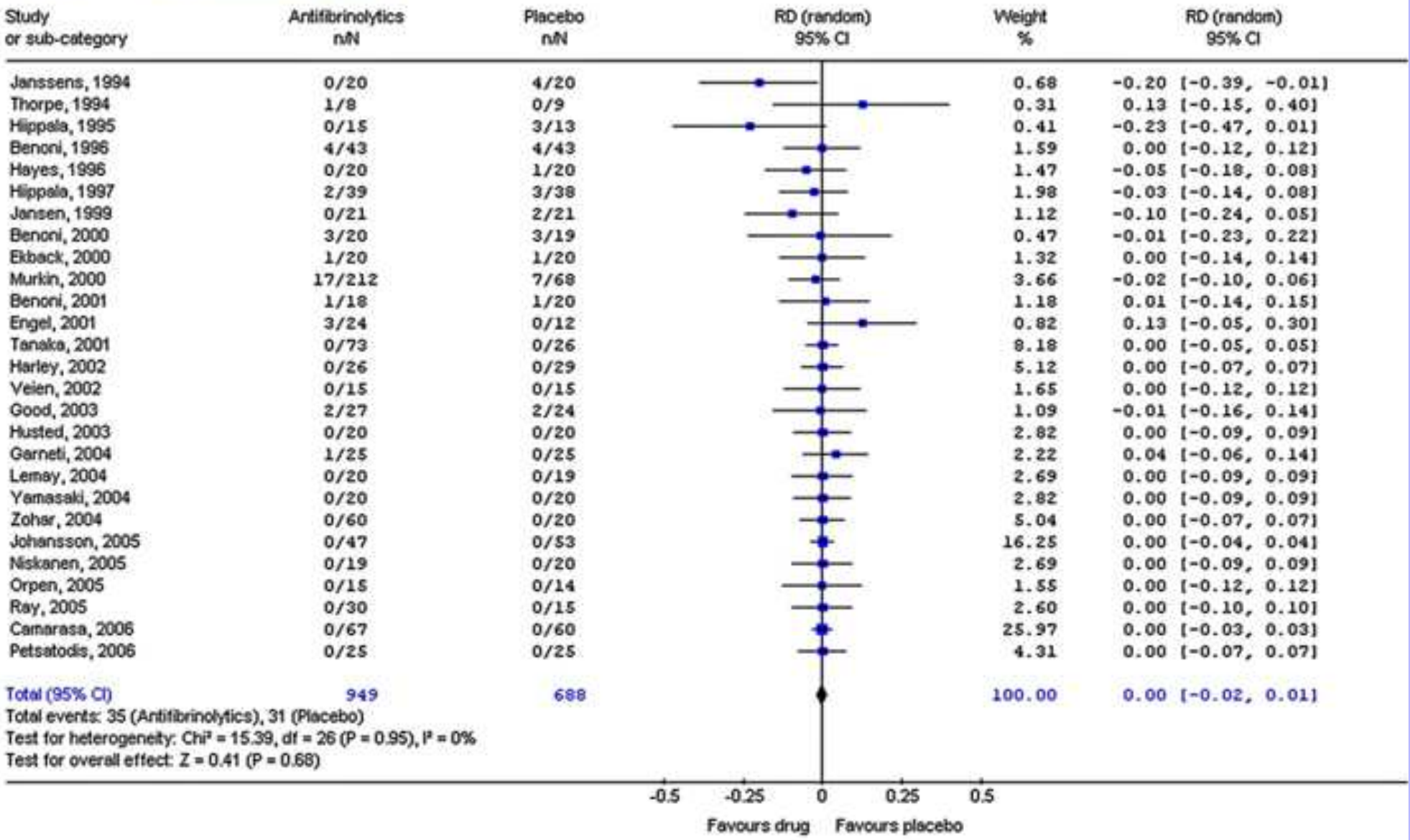
Anesthesiology 2006; 105:1034–46

Do Antifibrinolytics Reduce Allogeneic Blood Transfusion in Orthopedic Surgery?

Paul Zufferey, M.D., Fanette Merquiol, M.D.,† Silvy Laporte, M.Sc., Ph.D.,‡ Hervé Decousus, M.D.,§ Patrick Mismetti, M.D., Ph.D.,§ Christian Auboyer, M.D.,‖ Charles Marc Samama, M.D., Ph.D.,# Serge Molliex, M.D., Ph.D.‖*



Review: Effect of antifibrinolytic agents on bleeding and transfusion in orthopedic surgery
Comparison: 01 Primary analyses
Outcome: 03 Thromboembolic complications



Impact of antifibrinolytic agents on risk of venous thromboembolism.

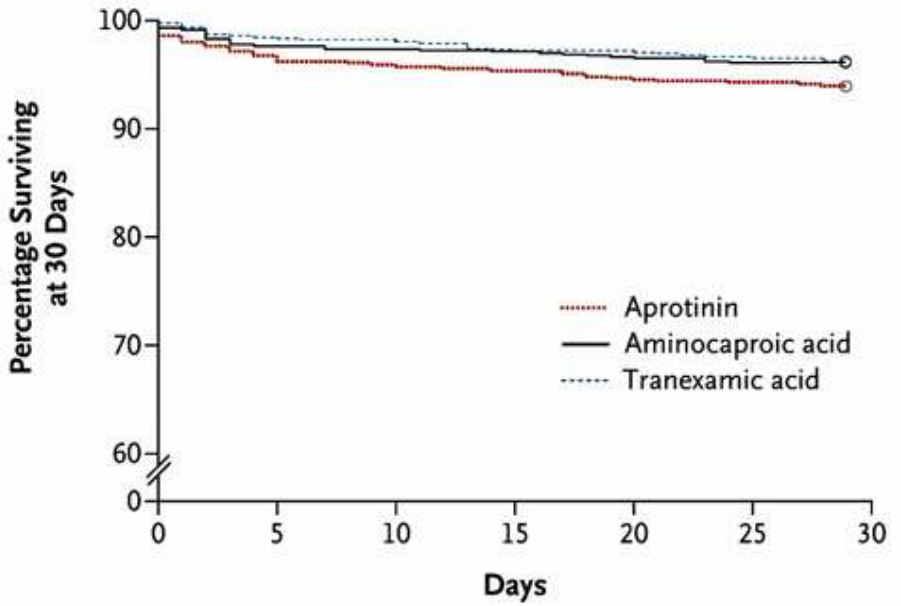
The NEW ENGLAND JOURNAL of MEDICINE

ESTABLISHED IN 1812 MAY 29, 2008 VOL. 358 NO. 22

Fergusson DA et al. for the BART investigators

A Comparison of Aprotinin and Lysine Analogues in High-Risk Cardiac Surgery

Surmortalité dans le groupe Aprotinine et retrait de l'aprotinine en juillet 2008



No. at Risk							
Aprotinin	779	753	747	742	737	734	732
Aminocaproic acid	780	761	759	757	753	749	749
Tranexamic acid	769	757	755	748	747	743	749

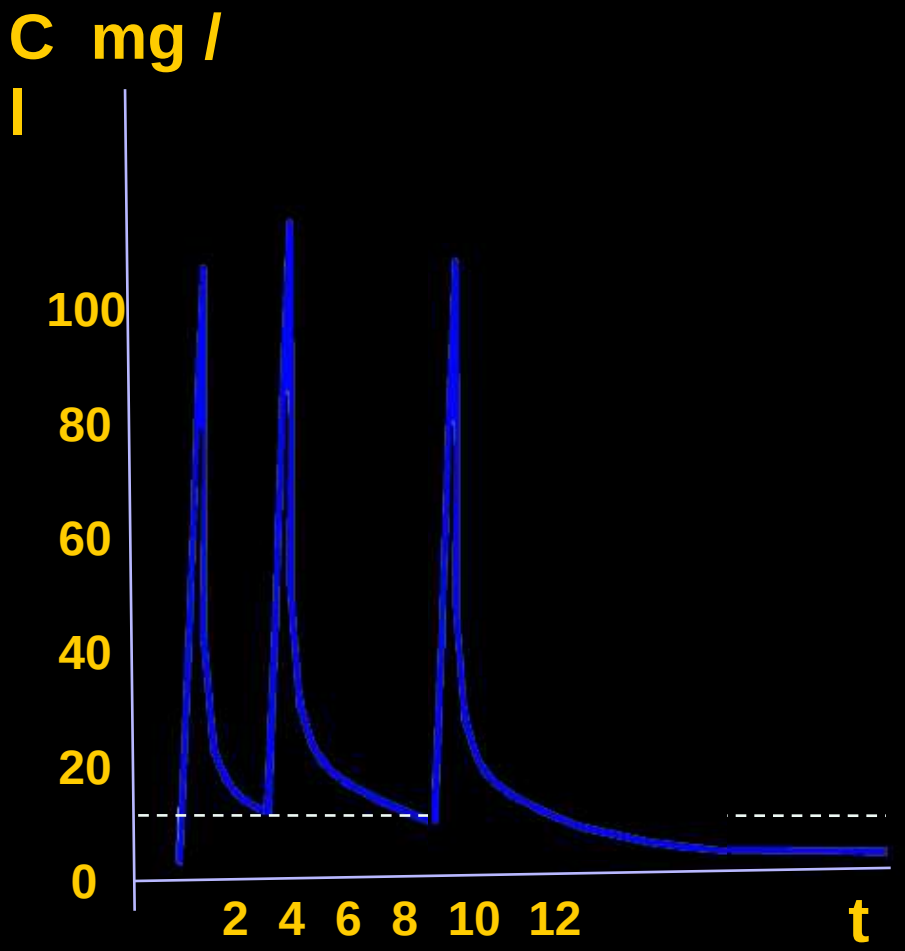
Figure 2. Kaplan–Meier Curves Showing Probability of Survival at 30 Days.

Among the 2328 patients who were included in the analysis of death at 30 days, patients in the aprotinin group had a reduced rate of survival as compared with those in the tranexamic acid group (P=0.05) and the aminocaproic acid group (P=0.06).

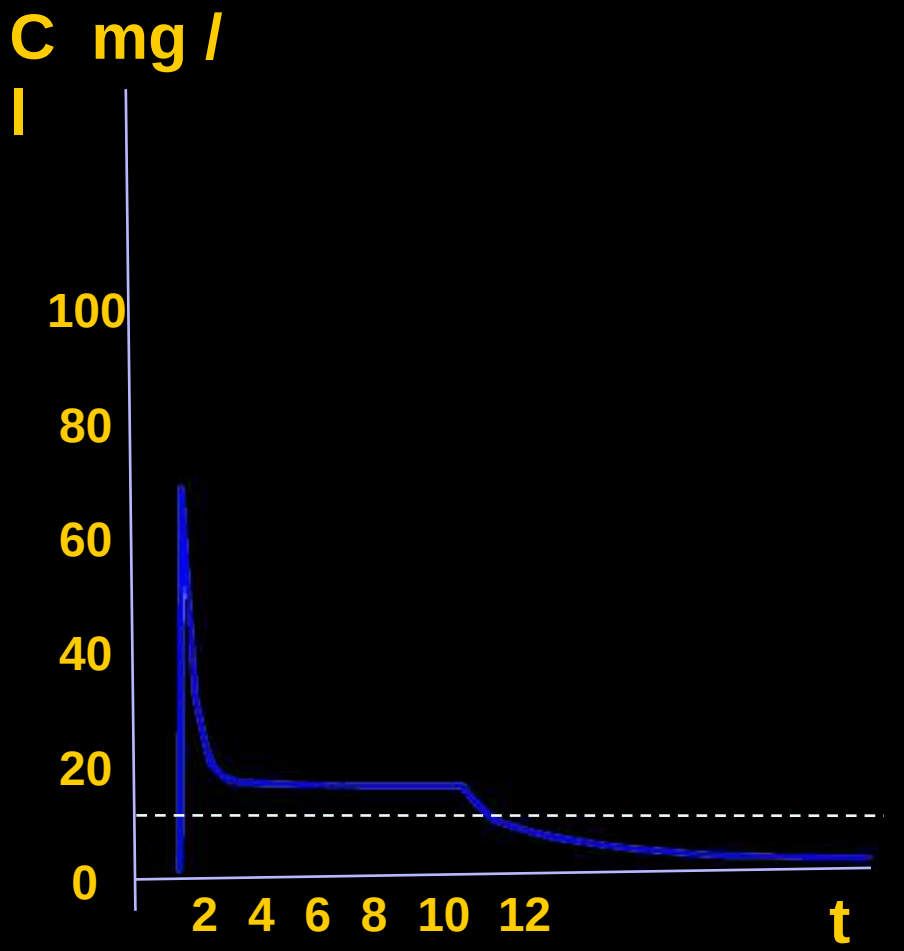
Contre – indications de l'Exacyl

- **Pathologie artérielle**
  - ✓ **HTA sévère**
  - ✓ **Artériopathie des membres**
  - ✓ **Infarctus du myocarde**
  - ✓ **AIT, AVC**
  - ✓ **Sténose carotidienne**
- **ATCD thrombo-emboliques veineux**
- **Insuffisance rénale, CC < 30 ml / min**
- **ATCD convulsions**

Schéma d'administration de l'Exacyl



15 mg / kg à H 0 et H 3
puis 6 h après



10 mg / kg à H 0
puis 2 mg / kg / h pdt 10 h

R288 **SFAR 2008**

Utilisation de l'acide tranéxamique en chirurgie orthopédique selon deux protocoles différents

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Service d'anesthésie-réanimation chirurgicale, hôpital Cochin, AP-HP, université Paris-Descartes, Paris cedex 14, France

Tableau. Pertes sanguines moyennes (35 % d'hématocrite)

	2003	2007	2008
PTG	2290 ml	**50 %** 1723 ml	**30 %** 1098 ml
PTH	2121 ml	**44 %** 1875 ml	**22 %** 923 ml

2007

PTH : 1g avant l'incision et 3 h après la fin de l'op.

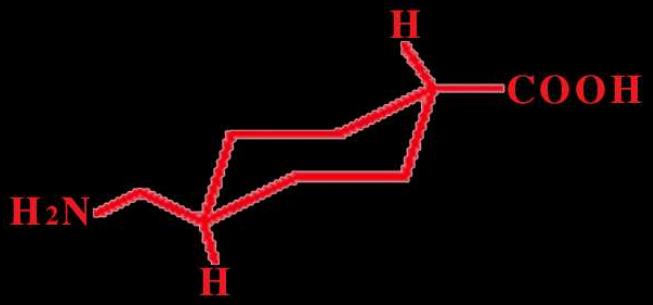
PTG : 1g avant le lâcher du garrot et 3 h après la fin de l'op.

2008

PTH : 1g avant l'incision puis 1 h après, PSE 1 g/h jusqu'à la fin de l'op. puis 3 h après la fin de l'op. et toutes les 4 h la 1ère nuit

PTG : 1g avant le lâcher du garrot et 3 h après la fin de l'op. et toutes les 4 h la 1ère nuit

Protocole Exacyl



Demi-vie d'élimination = 3 h

Ampoule injectable de 0,5 g / 5 ml par voie IV lente (15 min)

Marge thérapeutique du produit large

PTH

1 g à l'incision
1 g à H + 3
1 g / 6 h jusqu'au lendemain matin

PTG

Garrot non gonflé : 1 g à l'incision
Garrot gonflé : 1 g 15 min avant le lâcher du garrot
1 g à H + 3
1 g / 6 h jusqu'au lendemain matin

Protocole Exacyl

Mis en place depuis juin 200

Evaluation moyenne des pertes sanguines (Hte à 35 %)

	PTH	PTG
En 2007	1743 ml [1063 – 2406]	2183 ml [1400 – 3017]
Groupe Exacyl	1123 ml [474 – 2277]	1366 ml [769 – 2154]
Réduction des pertes	36 %	37 %

Recours à la transfusion

Groupe standard : 30 %

Groupe Exacyl : 5 %

CI de l'Exacyl 41 %

PTH : 33 %
PTG : 47 %

- ➢ **Pathologie artérielle** — 64 %
  - ✓ ACFA sous AVK
  - ✓ Infarctus du myocarde
  - ✓ Artériopathie des membres
  - ✓ AIT, AVC
  - ✓ Sténose carotidienne
- ➢ **ATCD thrombo-emboliques veineux** — 21 %
- ➢ **Insuffisance rénale, CC < 30 ml / min** — 7 %
- ➢ **Absence de prescription non motivée** — 7 %

Acide tranexamique : Conclusions

- Bénéfice confirmé en termes d'épargne sanguine
- Recours diminué à la transfusion
- Contre-indications à respecter
- Effets indésirables non retrouvés dans notre expérience
- Patients à risque, stratégie limitée d'épargne sanguine
- Large étude prospective manquante
- Protocole d'administration non validé

Evaluer le rapport bénéfice - risque