Tranexamic acid versus 
?-aminocaproic acid: efficacy and 
safety in paediatric cardiac surgery.

Abstract:
Objectives: Tranexamic acid (TXA) and 
?-aminocaproic acid (EACA) are used 
for antifibrinolytic therapy in cardiac 
surgery, although data directly 
comparing their blood sparing effect 
and their side effects, especially in 
paediatric cardiac surgical patients, 
are still missing. Methods: We 
analysed perioperative data of 234 
paediatric patients weighing less than 
20kg undergoing cardiac surgery. In a 
5-month period, all patients (n=114) 
received TXA (group TXA). During a 
second 5-month period, all patients 
(n=120) were treated with EACA 
(group EACA). Primary outcome was 
blood loss at 24h postoperatively; 
secondary outcome criteria were 
transfusion requirement, rate of 
revision for bleeding, postoperative 
complications and in-hospital 
mortality. Results: All descriptive and 
introperative parameters were well 
comparable. There was no evidence 
for a difference in blood loss at 24h 
postoperatively (TXA 21mlkg(-1) 
(14-38) (median (interquartile range)) 
vs EACA 29mlkg(-1) (14-40), 
p=0.242), rate of re-operation 
for bleeding (TXA 9.6% vs EACA 
8.3%, p=0.725) and transfusion of 
blood products. The incidence of 
postoperative complications such as 
seizures (TXA 3.5% vs EACA 0.8%, 
p=0.203) and other neurological 
complications (TXA 2.6% vs EACA 
1.7%, p=0.677), renal injury (TXA 
9.6% vs EACA 13.3%, p=0.378), renal 
failure (TXA 1.8% vs EACA 4.2%, 
p=0.447), low cardiac output
syndrome (TXA 12.3% vs EACA 10.8%, p=0.729), and vascular thrombosis (TXA 4.4% vs EACA 5.0%, p=0.824), as well as the in-hospital mortality (TXA 2.6% vs EACA 3.3%, p>0.999) did not show any statistically significant difference. Conclusions: TXA and EACA are well comparable in their effect on perioperative blood loss as well as in major clinical outcome criteria. Although the fourfold risk for seizures using TXA was not significant, we currently use EACA in paediatric cardiac surgery.