Results
Without addition of TM, AS group showed significantly higher ETP (p=0.015), higher peak (p=0.019) and higher velocity index (p=0.04). Lagtime was similar in the two groups. With addition of TM, AS highlighted a significantly higher ETP (p=0.036). D-dimer levels (p=0.011) as well as neutrophil (p=0.008) and monocyte (p=0.033) counts were significantly higher in the AS group as compared to the AA group.

Summary/Conclusions
This study suggests a hypercoagulable state in AS adults as compared to AA adults. These results could explain the higher risk of TE described in AS adults. A larger AS cohort should be investigated to confirm these observations. Moreover the underlined mechanisms and their clinical significance are to be explored.

The Use of Temporary Central Venous Catheters for Optimizing Continuous Infusion in Hemophilia Patients Undergoing Major Surgical Procedures

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Background/ Introduction
Continuous infusion (CI) of clotting factor concentrate has facilitated surgical procedures and intensive replacement therapy in hemophilia patients. The advantage of CI over bolus infusions is ability to maintain steady-state levels of coagulation factors and moreover, to reduce the total amount of factor concentrate spent. CI is commonly delivered through a peripheral vein. However, a significant number of hemophilia patients have distorted peripheral veins which can compromise continuous flow of factor concentrate needed for successful treatment. Use of central venous catheter can ease the application of CI. By searching the literature, we found only a few case reports describing the use of temporary non-tunneled central venous catheters (CVC) for administrating CI in patients with hemophilia.

Aims
The aim of this study was to evaluate the efficacy and safety of short-term used non-tunneled CVC for CI during surgical procedures in hemophilia patients.

Methods/Materials
In this study we have retrospectively studied patients with hemophilia that had temporarily used non-tunneled CVC for CI of factor concentrate during and after major surgery in the Saint-Luc University Hospital in Brussels between August 2000 and April 2014. The indication for CVC usage was a major surgery with anticipated need for CI of factor concentrate longer than 5 days.

CVC was inserted by an experienced anesthesiologist in the operating room after the induction of general anesthesia and normalization of APTT. Before the CVC insertion, the patient would have already received bolus of clotting factor concentrate and have the CI started through the peripheral vein. Upon placement, the CI was switched to the CVC. The CVC was kept in place until leaving hospital or cessation of the need for continuous infusion.

Results
During the study period, 40 male patients with hemophilia A or B (37 and 3 patients, respectively) underwent 67 major surgical procedures covered by CI of factor concentrate delivered through CVC. Patients, age 21 -81, had severe, mild or moderate disease (33, 5 and 2 patients, respectively). Patients had altogether 65 CVC for 67 surgical procedures. Patients underwent orthopedic, gastrointestinal and cardiovascular surgery. The CVC were placed in the right jugular vein (58%), the left jugular vein (18%), the left subclavian vein (8%) and right subclavian vein (3%), while the data were missing in 6 patients. Median duration of catheter was 12 days (range 5 to 107 days). No complications related to the CVC were noted. We searched for bleeding at the site of puncture of the catheter, signs of local infection, pneumothorax following placement of CVC, catheter thrombosis, malfunction of the catheter and surgical site infection.

Summary/Conclusions
Based on results of this study, we can conclude that the use of short-term non-tunneled CVC should be considered in patients with hemophilia undergoing major surgery with the need for prolonged CI of factor concentrates. By placing CVC we can ensure undisturbed flow of factor concentrate during CI and preserve peripheral veins for the future concentrate administration.