

The gold standard of anticoagulation management on cardiopulmonary bypass (CPB) is the Activated Clotting Time (ACT). However, many factors can affect its results such as temperature, hemodilution, surgical stress, etc. Another way to manage anticoagulation more precisely is a test called heparin assay. It consists in the measuring of the actual heparin concentration in the patient blood.

We presume that heparin assay allows a better management of anticoagulation in cardiac surgery on CPB. Also, the use of this technique would reduce blood transfusion and blood loss in the immediate postoperative period. We want to demonstrate the real impact of this anticoagulation management on these outcomes.

To do so, we want to conduct a prospective and randomized assay with 300 elective patients for coronary bypass or valve surgery on CPB. We will compare both anticoagulation management strategies (ACT and heparin assay) and assess outcomes on blood loss and blood transfusion. The control group will be managed with ACT and the intervention group with heparin assay.

This new approach to manage anticoagulation in cardiac surgery could have a real impact on the perturbation of the coagulation system related to heparin. We could be able to reduce hemostatic complications and possibly reduce costs associated with these complications. Heparin assay could be integrated in daily practice in addition to the ACT test in cardiac surgery centers.