Introduction:
Bleeding is a common complication during and after pediatric cardiac surgery, with acquired hypofibrinogenemia being the most associated disorder. This trial evaluated whether the use of prophylactic fibrinogen concentrate reduces bleeding and the requirement of allogeneic blood transfusion after pediatric cardiac surgery.

Methods:
A clinical randomized study with children undergoing cardiac surgery. Inclusion criteria: Cardiac surgery with cardiopulmonary bypass, age under 28 days or RACHS 1 ≥ 3 or reoperation with age under 10 years and FIBTEM®-A10 less than 15 mm at thromboelastometry. Patients were randomized 1:1 to treatment group [fibrinogen concentrate according to the formula (15 - A10 (mm) x body weight(Kg)/140)] or control group (saline 0.9%). Outcomes were postoperative bleeding and the number of transfused units.

Results:
In these preliminary results, 30 patients were analyzed; 14 (46.7%) patients were allocated in the fibrinogen concentrate group and 16 (53.3%) patients in the control group. Fibrinogen concentrate patients had lower total blood drainage volume compared to the control group (125 vs. 244 ml, p= 0.042). There was no difference between groups regarding intraoperative and postoperative blood transfusion. Fibrinogen levels analyzed by FIBTEM were similar between the groups at the end of CPB (6 vs. 7 mm, p= 0.292). Patients receiving fibrinogen concentrate had a significant increase in fibrinogen levels after infusion of the study solution (10 vs. 8 mm, p= 0.059, 204 vs. 160 mg/dL, p= 0.009).

Conclusion:
These preliminary findings suggest that prophylactic use of fibrinogen concentrate reduced postoperative bleeding in children undergoing cardiac surgery. There was no significant difference in the need of blood transfusion between groups.