BACKGROUND: Patients with severe thrombocytopenia are at risk for bleeding during insertion of central venous catheters (CVCs). Although most guidelines recommend preprocedural platelet (PLT) transfusions at a threshold of less than 50 — 10^9/L, there is only weak evidence supporting such recommendations.

STUDY DESIGN AND METHODS: The current study aimed to establish a safe PLT transfusion
trigger in patients with CVC placements. We performed a retrospective single-center analysis of 604 CVC insertions in 193 patients with acute leukemia receiving intensive chemotherapy or stem cell transplantation.

RESULTS: A total of 48% of the patients had a bleeding risk during CVC insertions, mostly due to thrombocytopenia. The bleeding incidence was 32% with 96% Grade 1 and 4% Grade 2 bleedings requiring prolonged local compression. There were no Grade 3 to 4 bleedings. Hemoglobin levels were similar before and 24 and 48 hours after the CVC insertion in the bleeding and nonbleeding group and there was no difference in the red blood cell (p = 0.72) and PLT transfusion requirements (p = 0.057) after CVC insertion. In multivariate analysis, only patients with PLT counts of less than 20 × 10⁹/L were at higher risk for bleeding before (p = 0.015) and after preprocedural PLT transfusions (p = 0.006) compared to patients with PLT counts of 100 × 10⁹/L or more.

CONCLUSION: CVC placements can safely be performed in patients with PLT counts of 20 — 109/L or more without preprocedural PLT transfusions.