Transfusion-transmitted bacterial infections (TTBIs) are among the most concerning risks of transfusion of platelet (PLT) concentrates” Kreuger et al (2017).

Abstract:
BACKGROUND: Transfusion-transmitted bacterial infections (TTBIs) are among the most concerning risks of transfusion of platelet (PLT) concentrates. Storage medium influences bacterial growth dynamics and thereby the sensitivity of screening tests for bacterial contamination.

STUDY DESIGN AND METHODS: The aim of this study was to quantify the association of storage media with the incidence of TTBIs after transfusion of PLT concentrates. In the Netherlands, the choice of storage medium is determined solely by geographic location of the hospital. We compared types of storage medium of all reported cases of TTBIs after transfusion of a PLT concentrate with types of storage medium of all produced PLT concentrates in the Netherlands from 2003 to 2014.

RESULTS: Fourteen cases of TTBIs were reported, of which 57.1% received a PLT concentrate stored in PLT additive solution (PAS) and 42.9% a PLT concentrate stored in plasma. Of all produced PLT concentrates 22.3% were stored in PAS and 77.7% in plasma. The relative risk of TTBI after transfusion of a PAS-stored PLT concentrate was 4.63 (95% confidence interval , 1.4-16.2) compared to transfusion of a plasma-stored PLT concentrate. The incidence of TTBIs was 22.2 per million (95% CI, 12.1-37.2 per million) transfused buffy coat PLT concentrates.

CONCLUSION: Transfusion of PAS-stored PLT concentrates is associated with a fourfold increased incidence of TTBIs, compared to plasma-stored PLT concentrates.

Reference:
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