

Concern of transfusion-transmitted bacterial infections has been the major hurdle to extend shelf life of platelet (PLT) concentrates. We aimed to investigate the association between storage time and risk of positive blood cultures at different times after transfusion” Kreuger et al (2017).

Abstract:

BACKGROUND: Concern of transfusion-transmitted bacterial infections has been the major hurdle to extend shelf life of platelet (PLT) concentrates. We aimed to investigate the association between storage time and risk of positive blood cultures at different times after transfusion.

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STUDY DESIGN AND METHODS: We performed a nationwide cohort study among PLT transfusion recipients in Denmark between 2010 and 2012, as recorded in the Scandinavian Donations and Transfusions (SCANDAT2) database. Linking with a nationwide database on blood cultures (MiBa), we compared the incidence of a positive blood culture among recipients of PLTs stored 6 to 7 days (old) to those receiving fresh PLTs (1-5 days), using Poisson regression models. We considered cumulative exposures in windows of 1, 3, 5, and 7 days.

RESULTS: A total of 9776 patients received 66,101 PLT transfusions. The incidence rate ratio (IRR) of a positive blood culture the day after transfusion of at least one old PLT concentrate was 0.77 (95% confidence interval , 0.54-1.09) compared to transfusion of fresh PLT concentrates. The incidence rate of a positive blood culture was lower the day after receiving one old compared to one fresh PLT concentrate (IRR, 0.57; 95% CI, 0.37-0.87). Three, 5, or 7 days after transfusion, storage time was not associated with the risk of a positive blood culture.

CONCLUSION: Storage of buffy coat-derived PLT concentrates in PAS-C up to 7 days seems safe regarding the risk of a positive blood culture. If anything, transfusion of a single old PLT concentrate may decrease this risk the following day.

Reference:

Kreuger, A.L., Rostgaard, K., Middelburg, R.A., Kerkhoffs, J-L.H., Edgren, G., Erikstrup, C., Pedersen, O.B., Titlestad, K., Nielsen, K.R., Ostrowski, S.R., Voldstedlund, M., van der Bom, J.G., Ullum, H. and Hjalgrim, H. (2017) Storage time of platelet concentrates and risk of a positive blood culture: a nationwide cohort study. *Transfusion*. November 22nd. .

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