



Our study revealed that the cessation of in-line filters from CVCs does not significantly influence the incidence of BSIs and mortality in patients with hematological disease. To confirm our results, however, a large-scale randomized controlled study is warranted” Tanaka et al (2016).

Abstract:

Objective: The use of intravenous in-line filters is effective for the mechanical removal of large particles, precipitates, bacteria, fungi, large lipid globules, and air. However, the routine use of in-line filters remains controversial. Many patients with hematological diseases frequently suffer from bloodstream infections (BSIs) with fatal outcomes.

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Methods: The year before cessation of an in-line filter was defined as the “filter period” and the year after its cessation was defined as the “non-filter period.” The number of central line-associated bloodstream infections (CLABSIs), which are defined through surveillance, the catheter utilization rate, the number of patient deaths within 7 days after removal of the central venous catheters (CVCs), and the overall survival rate following CVC insertion were

measured.

Results: During both periods, 84 patients had a total of 140 CVCs with a total number of catheter days of 3,407. There were 10 CVCs with CLABSIs, and the overall CLABSI rate was 2.9/1,000 catheter days, including 4 CVCs with CLABSIs (2.5/1,000 catheter days) during the filter period and 6 CVCs with CLABSIs (3.3/1,000 catheter days) during the non-filter period. The CLABSI rate, catheter utilization rate, and mortality did not differ significantly between the two periods. The only independent variable that was found to be significantly associated with the development of CLABSIs was a neutrophil count of  $<500 \times 10^6/L$  ( $p < 0.05$ ).

Conclusion: Our study revealed that the cessation of in-line filters from CVCs does not significantly influence the incidence of BSIs and mortality in patients with hematological disease. To confirm our results, however, a large-scale randomized controlled study is warranted.

#### Reference:

Tanaka, H., Ambiru, S., Kawaguchi, T., Sugita, Y., Kawajiri, C., Nagao, Y. and Shimura, T. (2016) Cessation of In-line Filters in Central Venous Catheters Does Not Significantly Influence the Incidence of Bloodstream Infections and Mortality in a Hospital Hematological Ward. *Internal Medicine*. 55(10), p.1287-92.

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