

**Abstract:**

In-line filtration is increasingly used in critically-ill infants but its benefits, by preventing micro-particle infusion in very preterm neonates, remain to be demonstrated. We conducted a randomized controlled trial among very preterm infants allocated to receive either in-line filtration of all the intra-venous lines or standard care without filters. The primary outcome was differences greater than 20% in the median changes in pro-inflammatory cytokine serum concentrations measured at day 3 and day 8 (+/-1) using a Luminex multianalytic profiling technique. Major neonatal complications were analyzed as secondary predefined outcomes. We randomized 146 infants, assigned to filter (n = 73) or control (n = 73) group. Difference over 20% in pro-inflammatory cytokine concentration between day 3 and day 8 was not found statistically different between the two groups, both in intent-to-treat (with imputation) and per protocol (without imputation) analyses. The incidences of most of neonatal complications were found to be similar. Hence, this trial did not evidence a beneficial effect of in-line filtration in very preterm infants on the inflammatory response syndrome and neonatal morbidities. These data should be interpreted according to local standards in infusion preparation and central line management.

**Reference:**

Virlouvet, A.L., Pansiot, J., Toumazi, A., Colella, M., Capewell, A., Guerriero, E., Storme, T., Rioualen, S., Bourmaud, A., Biran, V. and Baud, O. (2020) In-line filtration in very preterm neonates: a randomized controlled trial. *Scientific Reports*. 10(1), p.5003. doi: 10.1038/s41598-020-61815-4.

[Full Text](#)