

Anti-infective-treated central venous catheters for total parenteral nutrition or chemotherapy or not?

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The following question was answered by a systematic review of the literature: Should anti-infective-treated central venous catheters be used for total parenteral nutrition or chemotherapy or not?

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Abstract

This systematic review assesses the effect of anti-infective-treated central venous catheters (CVCs) on catheter-related bloodstream infection (CRBSI) in patients who received a CVC for total parenteral nutrition (TPN) or chemotherapy. Randomised controlled trials were retrieved from Medline and the Cochrane Library up to 14 October 2007. Two reviewers independently assessed trial quality and extracted data. Data for CRBSI were combined where appropriate, using a random effects model, and subgroup meta-analysis was carried out where applicable. The impact of the risk for CRBSI in the control group on the effect of anti-infective CVCs was studied by using meta-regression based on the bivariate meta-analysis model. Nine trials were included in the review. One trial showed that antibiotic-treated CVCs reduced the risk for CRBSI in outpatients with chemotherapy and a CVC in-situ during a period of about nine weeks. Eight trials did not find an overall significant benefit in favour of antiseptic-treated CVCs in patients who had a CVC during a mean of about two weeks. No relationship could be established between the effect of anti-infective-treated CVCs and the underlying risk for CRBSI, although nearly all trials had serious methodological shortcomings. Thus, available scientific evidence to prevent CRBSI by the use of anti-infective-treated CVCs in patients receiving chemotherapy or TPN is not sufficient as a basis to recommend their use. The recommendation of the Centers for Disease Control and Prevention to use antibiotic- or antiseptic-impregnated CVCs, when the risk for CRBSI remains high despite good

hygienic practice, should therefore be limited to patients in the intensive care/perioperative setting.