

Taurolidine is a non-antibiotic agent with broad-spectrum antimicrobial activity, which has been used as a lock solution to prevent CRBSI in some settings” Gudiol et al (2018).

Abstract:

BACKGROUND: Catheter-related bloodstream infection (CRBSI) is one of the most frequent complications in patients with cancer who have central venous catheters (CVCs) implanted and is associated with substantial morbidity and mortality. Taurolidine is a non-antibiotic agent with broad-spectrum antimicrobial activity, which has been used as a lock solution to prevent CRBSI in some settings. However, little is known about its usefulness in high-risk adult neutropenic patients with cancer. This prospective randomised clinical trial aims to test the hypothesis that taurolidine-citrate lock solution is more effective than placebo for preventing catheter infection in neutropenic haematological patients.

METHODS: This study is a prospective, multicentre, randomised, double-blinded, parallel, superiority, placebo-controlled trial. Patients with haematological cancer who are expected to develop prolonged neutropenia (> 7 days) and who have a non-tunnelled CVC implanted will be randomised to receive prophylactic taurolidine-citrate-heparin solution using a lock technique (study group) or heparin alone (placebo group). The primary endpoint will be bacterial colonisation of the CVC hubs. The secondary endpoints will be the incidence of CRBSI, CVC removal, adverse events, and 30-day case-fatality rate.

DISCUSSION: The lock technique is a preventive strategy that inhibits bacterial colonisation in the catheter hubs, which is the initial step of endoluminal catheter colonisation and the development of infection. Taurolidine is a nontoxic agent that does not develop antibiotic resistance because it acts as an antiseptic rather than an antibiotic. Taurolidine has shown controversial results in the few trials conducted in cancer patients. These studies have important limitations due to the lack of data on adult and/or high-risk neutropenic patients, the type of catheters studied (tunnelled or ports), and the lack of information regarding the intervention (e.g. dwelling of the solution, time, and periodicity of the lock technique). If our hypothesis is proven, the study could provide important solid evidence on the potential usefulness of this preventive procedure in a population at high risk of CRBSI, in whom this complication may significantly impair patient outcome.

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Full Text

Reference:

Gudiol, C., Nicolae, S., Royo-Cebrecos, C., Aguilar-Guisado, M., Montero, I., Martín-Gandul, C., Perayre, M., Berbel, D., Encuentra, M., Arnan, M., Cisneros-Herreros, J.M. and Carratalà, J. (2018) Administration of taurolidine-citrate lock solution for prevention of central venous catheter infection in adult neutropenic haematological patients: a randomised, double-blinded, placebo-controlled trial (TAURCAT). *Trials*. 19(1), p.264.

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