We hypothesised that daily oral administration of the anion-binding resin colestyramine (cholestyramine) would help prevent infections in those receiving intravenous antibiotic treatment via CVADs’’ Puri et al (2018).

Abstract:

Background: The use of indwelling central venous access devices (CVADs) is associated with the development of bloodstream infections. When CVADs are used to administer systemic antibiotics, particularly second- or higher-generation cephalosporins, there is a particular risk of developing Clostridium difficile infection. The overall bloodstream infection rate is estimated to be around 1.74 per 1000 central venous catheter (CVC)-days.

Objective: We hypothesised that daily oral administration of the anion-binding resin colestyramine (cholestyramine) would help prevent infections in those receiving intravenous antibiotic treatment via CVADs.

Method: A small case series is described of adult patients who received regular intravenous antibiotic treatment (ceftriaxone, daptomycin or vancomycin) for up to 40 weeks via indwelling CVADs; this represented a total of 357 CVC-days. In addition to following well established strategies to prevent C. difficile infection, during the course of the intravenous antibiotic treatment the patients also received daily oral supplementation with 4 g colestyramine.

Results: There were no untoward infectious events. In particular, none of the patients developed any symptoms or signs of C. difficile infection, whereas approximately one case of a bloodstream infection would have been expected.

Conclusion: It is suggested that oral colestyramine supplementation may help prevent such infection through its ability to bind C. difficile toxin A (TcdA) and C. difficile toxin B (Tcdb); these toxins are able to gain entry into host cells through receptor-mediated endocytosis, while anti-toxin antibody responses to TcdA and Tcdb have been shown to induce protection against C. difficile infection sequelae.
Reference: