

# Antibiotic use and decrease in INR levels among patients taking vitamin K antagonists

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Researchers have found an association between treatment with the antibiotic dicloxacillin and a decrease in international normalized ratio (INR; a measure of blood coagulation) levels among patients taking the vitamin K antagonists warfarin or phenprocoumon, according to a study in the July 21 issue of *JAMA*.

A challenge in the use of vitamin K antagonists (VKAs) is the potential for drug-drug interactions, resulting in insufficient or excessive anticoagulation. Solid data are lacking for most alleged interactions. In case reports, the commonly used antibiotic dicloxacillin has been reported to lower the anticoagulant effect of warfarin, the most used VKA, according the background information in the article.

Anton Pottegard, M.Sc.Pharm., Ph.D., of the University of Southern Denmark, Odense, and colleagues identified patients currently taking warfarin via the anticoagulant database Thrombobase, a clinical database of all VKA-treated patients (n = 7,400) followed up by 3 outpatient clinics and 50 general practitioners in Funen, Denmark. The researchers included all patients who filled a prescription for dicloxacillin while receiving warfarin therapy between March 1998 and November 2012. INR results were grouped by the week relative to dicloxacillin [exposure](#). The last INR measurement before dicloxacillin exposure was compared with the first measurement within weeks 2 to 4 after dicloxacillin exposure. The authors also assessed the use of dicloxacillin among patients taking another VKA, phenprocoumon.

Of 519 patients taking warfarin and initiating treatment with dicloxacillin, 236 met inclusion criteria. The average INR level prior to dicloxacillin exposure was 2.6 compared with 2, 2 to 4 weeks after dicloxacillin exposure, an average decrease of 0.6. In total, 61 percent (n = 144) experienced sub-therapeutic INR levels (

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