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IN BRIEF

ANTICOAGULATION THERAPY

Dabigatran and rivaroxaban use in dialysis patients with AF

Use of the novel oral anticoagulants dabigatran and rivaroxaban is contraindicated in patients undergoing dialysis because the drugs can bioaccumulate and cause increased bleeding. Dabigatran and rivaroxaban prescription rates were surveyed in 29,977 dialysis patients with atrial fibrillation (AF), and rates of bleeding and death from bleeding were compared in dialysis patients taking warfarin, dabigatran, or rivaroxaban. Investigators involved in the study reported that the use of dabigatran and rivaroxaban in haemodialysis patients has steadily increased since the drugs first became available in the USA. Importantly, a covariate regression analysis showed that dabigatran (rate ratio [RR] 1.48, 95% CI 1.21–1.81, $P=0.0001$) and rivaroxaban (RR 1.38, 95% CI 1.03–1.83, $P=0.04$) were associated with an increased risk of hospitalization or death from bleeding compared with warfarin. Additional studies to assess the safety and efficacy of these agents in dialysis patients are required before they can be recommended.

Original article Chan, K. E. *et al*. Dabigatran and rivaroxaban use in atrial fibrillation patients on hemodialysis. *Circulation* doi:10.1161/CIRCULATIONAHA.114.014113

ATRIAL FIBRILLATION

Digoxin use is associated with increased mortality in patients with AF regardless of concomitant heart failure

Whether the use of digoxin in patients with atrial fibrillation (AF) is safe remains unclear. Ouyang and colleagues attempted to address this question by performing a meta-analysis of all available evidence on the relationship between digoxin and mortality in patients with AF. Altogether, 11 observational studies met the inclusion criteria, including a total of 318,191 patients who were followed up for a mean of 2.8 years. Digoxin use increased the risk of death by 21% (HR 1.21, 95% CI 1.12–1.30). Importantly, this increase in mortality was observed in patients with AF receiving digoxin, either with or without concomitant heart failure.

Original article Ouyang, A.-J. *et al*. Meta-analysis of digoxin use and risk of mortality in patients with atrial fibrillation. *Am. J. Cardiol*. doi:10.1016/j.amjcard.2015.01.013

LIPIDS

Small, dense HDL subfractions are the most efficient mediators of cholesterol efflux

The relationship between HDL-cholesterol level and cardiovascular risk can potentially be explained by differences in the capacity of HDL subfractions to remove cellular cholesterol. The ATP-binding cassette transporter A1 (ABCA1) mediates cholesterol efflux to lipid-free apolipoprotein A-I, but their role in efflux to individual HDL subfractions has not yet been determined. Du and colleagues aimed to elucidate which HDL particle subfractions were the most efficient in facilitating cellular cholesterol efflux from macrophages, and identify the cellular cholesterol transporters involved. ABCA1 was found to be the main promoter of macrophage cholesterol efflux to HDL and apolipoprotein A-I, and small, dense HDL subfractions mediated this efflux most efficiently.

Original article Du, X. *et al*. HDL particle size is a critical determinant of ABCA1-mediated macrophage cellular cholesterol export. *Circ. Res*. doi:10.1161/CIRCRESAHA.114.305485