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Atrial fibrillation in haemodialysis patients: Do the guidelines for anticoagulation apply?

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Atrial fibrillation (AF) is the most common arrhythmia observed in the general population. The increased risk of thromboembolism and the benefit of the anticoagulation with warfarin in this pathology are also well documented.

AF appears more frequent in haemodialysis patients, and may be related to factors such as progressive cardiac enlargement, left ventricular hypertrophy and the nonphysiological nature of haemodialysis.The risk-benefits ratio of oral anticoagulation in this group are not well characterized.

In end-stage renal disease, there is an increased risk of hemorrhage due to vessel and platelet abnormalities associated with abnormal platelet adhesion and aggregation mechanisms. The risk of bleeding is very high in haemodialysis patients, because of the use of anticoagulants during dialysis.

It has never been established whether the guidelines for anticoagulation in the general population apply to haemodialysis patients.

This retrospective study investigated the prevalence of AF in haemodialysis patients and its management. It reviewed 155 patients undergoing maintenance haemodialysis on April 1st, 2003 (age 56.9 ±13.5 years; mean duration of haemodialysis 39.3 ±37.5 months). Patients with paroxysmal or permanent AF were identified, and baseline clinical and echocardiographic data were obtained.

The incidence of cerebrovascular accidents, major haemorrhage and all-cause mortality was assessed during the 26 month average follow-up period. The study compared the outcomes of patients with AF with those without AF.

Both the incidence of cerebrovascular events and of major haemorrhagic episodes requiring hospitalization or blood transfusion were high. The incidence of major haemorrhagic episodes, however, outnumbered that of cerebrovascular events by 3.5:1. This study demonstrated an overall incidence of 30.4 episodes/1,000 patient-years for cerebrovascular events and 106.4 episodes/1,000 patient-years for major haemorrhagic episodes.

For the AF subgroup, the incidences were 49.7 episodes/1,000 patient-years and 161.5 episodes/1,000 patient-years for cerebrovascular events and major haemorrhages, respectively. This is on a background of anticoagulation given to 7% of the overall cohort and 12.5% of the AF subgroup.

These data demonstrate that the risk–benefit profile for anticoagulation for AF in the

haemodialysis population is different from that in the general population.

The incidence of cerebrovascular events has been reported to be between 13.2 and 27.8 episodes/1,000 patient-years compared with an incidence of 3 episodes/1,000 patient-years in the general population.

This study demonstrated the distorted risk-benefit profile of anticoagulation for AF in the haemodialysis population, compared with the general population. As a result, the strong evidence for anticoagulating patients with AF in the general population may not be safely extrapolated to the haemodialysis population.

Until prospective randomized trials are conducted, clinicians should exercise caution and individualize the risk-benefit profile of anticoagulation for AF for each patient in this unique population.

Comment on the paper:
Andrew Cy To, Maha Yehia and John F Collins – Atrial fibrillation in haemodialysis patients: Do the guidelines for anticoagulation apply? Department of Renal Medicine, Auckland City Hospital, Auckland, New Zealand. *Nephrology* 2007; 12:441-447