Reviewer's report

Title: Atrial Fibrillation in Chronic Dialysis Patients in the United States: Risk Factors for Hospitalization and Mortality.

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Reviewer: Dr Fabio Fabbian

Level of interest: A paper whose findings are important to those with closely related research interests

Advice on publication: Accept after discretionary revisions

I like this paper because shows very interesting data about atrial fibrillation (AF), a very common complication encountered in clinical practice. According to the authors' conclusions, I could consider AF a comorbidity factor. Both title and abstract make known ideas of the conclusions.

Discretionary revisions

1) In non-uremic patients AF is the most common sustained arrhythmia, associated to advanced age, ischemic heart disease, rheumatic mitral disease, hypertension, congestive or hypertrophic cardiomyopathy and mitral valve anular calcification. Therefore it looks reasonable to think that AF is a frequent finding in dialysis patients. Abbott et al.'s paper deals with a problem that has been marginally considerend by nephrologists. AF is in fact frequently diagnosed during dialysis treatment, but it has been stated that it is rarely a cause of hospitalization, because in the great majority of cases it stops spontaneously. On the contrary the authors pointed out that AF is a frequent cause of hospitalization. They evaluated symptomatic arrhythmia therefore the real prevalence of AF is underestimated. Twelve percent of the patients were taking digoxin, it cannot be excluded that the medication could had been prescribed because of the arrhythmia. Moreover this fact may be an explanation of the independent association between digoxin and AF.

2) The low percentage of stroke as a cause of death in patients with AF is a surprise, Vazquez et al. (Am Heart J 2000) reported thromboembolic phenomena in 35% of patients with AF. Moreover 10.5% of the patients studied had a stroke. I wonder if it was related to AF.

3) The relationship between AF and cardiac problems should be emphasized, in fact the authors found a relationship with history of coronary heart disease, history of congestive heart failure, previous CABG and PTA, previous coronary angiography and LVH shown by ECG, echocardiography and chest X-ray.

Compulsory revisions

1) Please define "AFIB" in table 1 that anyway appears to be too long. I would report in the table only the factors associated to AF in the univariate analysis, while all the other parameters could be reported in the results chapter. At the bottom of the same table the sentence “b p2) Paragraph corresponding to table 3,4,5(?) in the results chapter do not correlate to the tables at pages 23,24
and 25. In table 3 (or 4?) considering "Cox regression analysis of factors associated with hospitalized atrial fibrillation" the relationship between LVH and AF does not appear

3) Reference n. 33 "onrheumatic" should be "nonrheumatic"

**Competing interests:**

None declared.