Reviewer's report

Title: Cardiac Asthma in Elderly Patients: Incidence, Clinical Presentation and Outcome.

Version: 1 Date: 23 March 2007

Reviewer: Alain Rudiger

Reviewer's report:

General

Thank you very much for giving me the opportunity to review this interesting article by Jorge and co-workers entitled “Cardiac Asthma in Elderly Patients: Incidence, Clinical Presentation and Outcome”. This observational single centre study represents a sub-analysis of a larger study investigating elderly patients with respiratory failure (defined as dyspnea plus one of the following: RR>25/min, pO2 <70mmHg, pCO2 >45mmHg, SaO2<92%). Two hundred and twelve patients with a mean age of 82 years presenting to the emergency room with dyspnea due to heart failure were included in the analysis. The aim of the study was to assess presentation, clinical characteristics and outcome of the subgroup of patients with symptoms of airway obstruction (cardiac asthma). The main findings of this study are:

- 41% (212/514) of elderly patient presenting with dyspnea suffered from heart failure
- 35% of all elderly heart failure patients presented with wheezing
- Patients presenting with wheezing had more often a history of COPD
- Pulmonary function tests confirmed that patients with wheezing had more airway obstruction
- Pulmonary function test revealed that all heart failure patients had a restrictive ventilation defect
- The study patients had independent of their initial clinical presentation:
  - A risk of re-admission within 3 months of 42%
  - An in-hospital mortality of 22%
  - A 1-year mortality of 54%

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

None

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Abstract:
1) Please mention the significance level of your analysis (p-values).
2) Two hundred and twelve patients (not two)
3) Make sure that the order of results is correct, e.g. FEV1: 1.33l vs 1.09l or 1.09 vs 1.33l?

Methods:
4) The authors mention Doppler echocardiography measurements (septal E/Ea ratio) in order to assess elevated filling pressures, but I cannot find the corresponding results. Is there a possibility to show echo results in a table?
5) The authors used the median and its 95% confidence interval. This is surprising, as the variability of non-parametric data is usually reported with the range (minimum, maximum) or the interquartile range, whereas the 95% CI is traditionally used for hazard and odds ratios.
6) Please clarify the way you performed your multivariable analysis, e.g.: A multivariable analysis was performed in order to assess predictors of cardiac asthma. Only variables with a p value <0.1 in the univariate analysis were included in this test.

Abstract:
7) Conclusion: Patients with cardiac asthma (no comma) represent (no s)
8) Please re-phrase the last sentence

Methods/results:
9) 12 lead (not led) electrocardiogram
10) flow volume loop (s) were performed in several (how many?) patients
11) Skip “as suspected” in the result section

Table 1
12) What do you mean with arteritis? Arteriosclerosis or inflammation of the arteries as a result of infection or autoimmune disease?
13) Replace “RV signs” by “Signs of RV failure”
14) Creatinine clearance (and not clairance)

What next?: Accept after minor essential revisions

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests.