Reviewer's report

Title: Serum free light chain measurement aids the diagnosis of myeloma in patients with severe renal failure.

Version: 1 Date: 9 June 2008

Reviewer: Gerassimos A. Pangalis

Reviewer's report:

In this study the authors retrospectively determined FLC and FLCR in frozen sera drawn at the time of severe renal failure onset, in a series of 142 new dialysis-dependant patients. Of 42 patients with an abnormal FLCR, 41 presented multiple myeloma. Consequently, the authors suggested that FLC measurements should be included in the laboratory investigations of patients with acute renal failure to help rapid diagnosis of myeloma and early treatment initiation.

The study is well done and the conclusions clear

Minor comments:

1. It is said that the identification of monoclonal protein production is not proof of MM, but indicates that further investigations are required which is true. However, it should be clear that the additive diagnostic sensitivity of FLC measurements is because the ratio is abnormal in light chain myeloma and also in heavy chain myeloma with excess production of light chains.

2. In table 1, it is shown that one patient had IgM myeloma. This is a very rare entity, Waldenstrom’s macroglobulinaemia is more probable in case of IgM paraproteinaemia. An asterisk should be added to explain the diagnosis. Has this patient a biopsy proven cast nephropathy?

3. In MM patients with renal failure and high FLCR, early initiation of adequate treatment is important to increase the chances of renal recovery and ultimately of survival as discussed by the authors; but it should also be mentioned that high FLCR in MM patients at diagnosis is associated with a shortened survival as shown by Kyrtonis et al (British Journal of Haematology 137, 240-43, 2007)

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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