Reviewer’s report

Title: Hierarchical Cluster Analysis of Immunophenotype Classify AML Patients with NPM1 Gene Mutation into Two Groups with Distinct Prognosis

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Reviewer: Cristina Mecucci

Reviewer’s report:

This paper is dealing with a large series of 543 AML patients, including 491 adults and 52 children. In addition a so-called validation cohort of 36 NPM mutated cases was included. Immunophenotype was evaluated in all cases. Based on the expression of HLA-DR, CD34 and CD7 two subgroups emerged among NPM mutated AML. The minor subgroup with positivity for the three antigens had a worse prognosis independently from the FLT3-ITD mutation. This result could be interesting in disease monitoring.

Although mainly confirmatory the paper sounds and it may be interesting for people working in AML.

I would suggest to merge figure 2 and 3.

As around 15% of NPM+ AML are associated with cytogenetic aberrations it would be interesting to know cytogenetic changes in this series and their distribution in the two immunophenotypic subgroups.

Table 3. CEBPA mutations need to be classified as mono- or bi- allelic.

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: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:

The Reviewer applied for a patent on NPM1 mutations