Reviewer's report

Title: High incidence of microsatellite instability and loss of heterozygosity in three loci in breast cancer patients receiving chemotherapy: a prospective study

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Reviewer: Giovanni Corso

Reviewer's report:

The Authors in this clinico-molecular study analysed the MSI phenotype, LOH status and MMR protein expression in a series of breasts carcinomas treated with chemotherapy, advancing the conclusion that these biomarkers are early prognostic factors for potential CHT effects. The study concept and design is very good, however I have important criticisms to appoint in the method and data interpretations.

1. The Authors considered a follow-up time of 36 months, but in oncologic patients this period is very short to assess the real frequency of tumor relapse and survival. It should be considered when ever possible almost 60 months; moreover, breast cancer could show recurrence also after 10 years.

2. The Authors stated rightly that the NCI workshop defined the MSI status and the loci that should used. However the Authors adopted the Mfd41, Tp53-Alu, Mfd28 that are not described in this workshop.

3. Moreover, when we have a case with MSI status, we cannot considered this case also as LOH: tumor with MSI is not electable for a correct LOH evaluation. The citation reported by the Authors as MSI and/or LOH is not correct.

Level of interest: An article of limited interest

Quality of written English: Acceptable

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