Reviewer's report

Title: CXCR4 expression on circulating pan-cytokeratin positive cells is associated with survival in patients with advanced non-small cell lung cancer

Version: 3 Date: 18 April 2009

Reviewer: Hironao Yasuoka

Reviewer's report:

The authors investigated CXCR4 levels on circulating pan-cytokeratin cells from patients with non-small cell lung cancer (NSCLC), and clarified that CXCR4 expression in peripheral blood was increased when compared to normal controls and it was significantly correlated with poorer prognosis in advanced NSCLC. They also provided further evidence that CXCR4 expression was found on NSCLC tumor tumors and at sites of tumor metastasis. These findings are novel, but the statistical elaborations of the data should be revised.

Major Compulsory Revisions:

1. In the Results (Patient Characteristics) and Table 1, the authors should show more classified stage of all NSCLC patients. They presented the data of stage IIIB and IV, however, it is insufficient. Table 1 only showed characteristics of biased subgroup.

2. In the Results (CXCR4 and Pan-cytokeratin Expression in Peripheral Blood), the authors described “CXCR4 and pan-cytokeratin expression was elevated on circulating cells of patients with NSCLC. We found both pan-cytokeratin expression and combined pan-cytokeratin/ CXCR4 expression was significantly increased on PBMC of patients with advanced NSCLC when compared to normal controls.” The authors need to perform statistical calculations including all NSCLC cases (28 cases) in spite of advanced NSCLC cases (13 cases) only. All NSCLC cases can be divided into subgroup. Because the small number of cases in this study probably means without the assumption of equality of variances, nonparametric tests, e.g., Mann-Whitney U test or Kruskal-Wallis test, should be performed to compare 2 or more group.

3. In the Results (Low Circulating CXCR4 and Pan-cytokeratin Expression Predicts for Improved Survival), univariate survival analysis should be performed on all NSCLC patients in spite of advanced NSCLC patients only. Then, if desired, Kaplan-Meier curves with a log-rank test for subgroup of stage IIIB or IV NSCLC patients can be presented.

Minor Essential Revisions:

1. I can not find “p = 0.034” , described In the Results (Low Circulating CXCR4 and Pan-cytokeratin Expression Predicts for Improved Survival), in Table 1.

Level of interest: An article of importance in its field
Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests.