Reviewer's report

Title: Expression of CD80 and CD86 costimulatory molecules correlates with better survival in nasopharyngeal carcinoma

Version: 1 Date: 27 January 2007

Reviewer: S-H Ignatius Ou

Reviewer's report:

General

This report is interesting and provided some indirect evidence that eventual stimulation of CD8 T killer cells may have potential implication in NPC treatment and research. However the current manuscript needs more analyses to confirm that CD 80 or CD 86 expression is indeed prognostic for overall survival. If the authors can show CD80/86 expression is prognostic in a multivariate analysis model incorporating some important and well known prognostic factors in NPC then the eventual article will of be important interest.

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

1. The authors’ analysis was incomplete. Only univariate analysis was performed. The authors need to incorporate other prognostic factors in NPC such as T stage, N stage and treatment rendered (chemoradiation or radiation) in a Cox proportional hazards model. Due to the limited number of patients in this study a Cox proportional hazard modeling may not possible. The authors may want to include a larger sample of patients so that a Cox proportional hazards model analysis can be carried out.

2. The authors should also group both CD80 and CD86 analyses together to decrease the number of prognostic variables as 9 patients had overlapping expression. Thus a simple Cox model incorporating T1-2 vs. T3-4, N0-1 vs. N2-3, CD80+ or CD86+ vs. CD80-/CD86-; radiation vs. chemoradiation would make the analysis more meaningful.

3. The patient population in this study was small but extremely heterogeneous ranging from T1 to T4 and N0 to N3 and they received divergent treatment (radiation or chemoradiation). It is well established that concurrent chemoradiation confers far superior survival benefit than just radiation alone. Radiation is generally reserved for T1-2 N0 patients. It would be helpful to specify which patients received chemoradiation versus radiation.

4. For the patients who received chemoradiation, it was not specified whether they received concurrent chemoradiation or sequential chemoradiation or some other combination. Concurrent chemoradiation was conferred survival advantage as compared to sequential chemotherapy and radiation.

5. The staging work-up of the patients were not reported and there could be heterogeneity in the staging work-up. Since the patients were not enrolled in any clinical protocols how were the patients staged?

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

Discretionary Revisions (which the author can choose to ignore)

Do the authors have access to banked peripheral blood of these patients so as to correlate the level of CD8 T cells in patients whose tumor that expressed CD80/86 versus those whose tumor did not?

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions
**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**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