Reviewer’s report

Title: Recurrent and multiple bladder tumors show conserved expression profiles

Version: 1 Date: 14 March 2008

Reviewer: Francisco X. Real

Reviewer’s report:

General comments
In this interesting ms. Lindgren et al. report on genomic and transcriptomic profiling of synchronous and metachronous bladder tumors in order to trace phylogenetic relationships. Findings on synchronous and metachronous tumors are presented together whereas they should be presented separately, this is very important. It is unfortunate that the authors were only able to generate data from conventional CGH rather than array CGH. The finding that expression analyses are highly similar in tumors from a given patient, whether synchronous or metachronous is very interesting and is a major contribution of the paper that has potential clinical relevance.

- Major Compulsory Revisions
1. It would be important to know whether the lesions analyzed correspond to the initial tumors (first sample) or they may already come from prevalent cases with bladder cancer. This information is crucial in order to interpret the data and the genetic interpretation of tumor evolution and it should be provided both for cases with synchronous/metachronous tumors and for the remaining cases analyzed.
2. The definition of RNA degradation should be provided.
3. Information on treatment applied to cases as well as a summary of the TG at presentation of cases included should be provided. Treatment might have influenced the evolution of tumors in the bladder.
4. The information as reported in Table 1 is not easy to follow. The authors should think about a better way of presenting their data.

- Minor Essential Revisions
1. It appears that progression was defined as an increase in T or G. How reproducible was G assessment by pathologists in this series?
2. It would be important to provide information on the cellularity of the samples used for array expression profiling from cases 18 and 38 as well as information on the genes that should distinct expression: were these genes related to muscle or stroma? Is it possible to adscribe differences in expression profiling to differences in proportion of contaminant normal cells? (both cases showed progression to T2 tumors).
3. Did the authors compare different samples from a given tumor? If available, this information is potentially important from the clinical standpoint.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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

Declaration of competing interests:

- Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this paper, either now or in the future? NO
- Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this paper, either now or in the future? NO
- Do you hold or are you currently applying for any patents relating to the content of the manuscript? Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript? NO
- Do you have any other financial competing interests? NO
- Do you have any non-financial competing interests in relation to this
paper? NO

'I declare that I have no competing interests'