Reviewer's report

Title: Overall survival is correlated with histology of bladder cancer in patients treated with cystectomy and adjuvant cisplatin-based chemotherapy

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Reviewer: Jo Cresswell

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A histological study linked to a trial of radical cystectomy combined with adjuvant chemotherapy for locally advanced bladder cancer. The original trial results were published in 2005 so the follow up is lengthy.

The authors have analysed results according to histological subtype and suggest that plasmacytoid urothelial carcinoma has a worse prognosis than either conventional urothelial carcinoma or micropapillary variant.

The study is of interest as it identifies a subgroup of cancers with a particularly poor prognosis. These subtypes are rare so this report is one of the larger case series. This is of value to the treating urologist as it suggests that aggressive treatment with early cystectomy is warranted. None of the patients received neoadjuvant chemotherapy so we cannot draw any conclusions regarding its value. Nor can we compare to a group without adjuvant chemotherapy.

1) The main limitation of the study, as the authors acknowledge is the small numbers of subtype cancers which is inevitable. This may explain the somewhat unexpected result that micropapillary variant (MPC) have better survival than conventional urothelial cancer (UC) and plasmacytoid (PUC). This is particularly surprising given that all of the MPC had T3 or T4 disease and more than half were node positive. Urologists will not be reassured that MPC has a better prognosis than previously thought based on these small numbers.

PUC on the other hand, seemingly has a very poor prognosis and studies such as this may provide evidence for aggressive treatment of this disease at the early stages, and indicates insensitivity to chemotherapy.

Methods:

2) The authors should comment on the cut-off value of 50% used to define the different subtypes. It would be interesting to see the correlation with prognosis for different proportions of subtypes.

3) A further limitation is the retrospective review of histology by a single pathologist. Assessment of the different subtypes will involve significant interobserver variability and this weakens the study. It would be interesting to see the correlation with histological report from a second pathologist blinded to the initial report.

Results:
1) the table included as a supplementary file is very important to the readers interpretation of the results, and should be included in the main article
2) The percentages are missing for many of the values in the table

Minor corrections:

Abstract
1) Consider "has gained more attention" last line of background

Results
2) Paragraph 1 includes median age of patients but mixes up months with years

Discussion
3) "gathers well known" consider "accumulates"
4) "exhibitings" should be "exhibits"

Survival curves
5) No legends are included. the authors should explain what is meant by "censored"

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.