Reviewer’s report

Title: Expression of histone deacetylases 1, 2 and 3 in urothelial bladder cancer

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Reviewer: Carmen Jeronimo

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Poyet and colleagues have examined the expression of histone deacetylases 1, 2 and 3 protein by immunohistochemistry in tissue microarray of 348 tissue samples from 174 patients with a urothelial carcinoma of the bladder transitional. They found that HDACs were expressed in a significant proportion of the cases (HDAC-1: 40 %, HDAC-2: 42 %, HDAC-3: 53 %). Additionally, HDAC-1 and HDAC-2 expression was significantly associated with higher tumor grades. According to the authors, patients with high-grade tumors and high expression levels of HDAC-1 were more likely to progress compared to all other patients.

Although this is merely a descriptive study, the results add some new information on this matter and the manuscript is correctly written. However, there are some important issues regarding the design of the study that deserve criticism:

1. The authors did not provide information regarding tissue controls. Did the authors use internal controls for each case? What was considered “normal expression”?
2. In the text it is referred that progression free survival was calculated, however in the KM curves / figures the authors mentioned “progression probability”. Are these variables the same?
3. Although the samples size is fairly adequate for the aim of the study, the proportion of invasive tumors is rather limited
4. The authors must rephrase the second sentence of the conclusion in order to be more objective: “…high expression levels of HDAC-1 alone and in combination with grading of the tumour may have a certain value for prognosis for pTa & pT1 bladder tumours…).
5. It is important to be clarified/ emphasized by the authors that no functional studies were performed and the results are merely observational and based on the establishment of statistical associations.

Minor points:
1. In the numbers of the tables, the “coma” should be replaced by a “dot”.

Level of interest: An article of importance in its field

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