Reviewer’s report

Title: The added value of using mutational profiling in addition to cytology in diagnosing pancreaticobiliary malignancy: review of clinical cases at a single center

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Reviewer: Hanno Matthaei

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In their Article "The added value of using mutational profiling in addition to cytology in diagnosing pancreaticobiliary malignancy: review of clinical cases at a single center" Mahotra et al analyzed the value of mutational analyses (MP=mutational profiling) of DNA from micordissected cytology slides and supernatant specimens from biliary brushings in order to predict histology/malignancy. The authors used an established panel of DNA alterations in their analyses and found that these assays are capable of providing additional information regarding the presence of cancer. The authors concluded that MP is particularly useful in patients that were hard to diagnose by cytology alone.

In the past years large scale DNA profiling (such as next generation sequencing) has revealed many cancer specific genetic alterations. Mahotra et al demonstrate an important and elegant translational application of this genetic knowledge and show a very promising approach. Cytology with its known limited sensitivity and specificity can obviously be supported by genetic testing. Even if the authors show only a small series the translational approach is intriguing. The manuscript is well written and altogether I thinks very suitable for publication in BMC Gastroenterology.

Major:
- The paper is missing some important studies in the field. For example, when investigating the use of pancreatobiliary cancer specific DNA alterations comprehensive DNA profiling publications such as Jiao et al. Nat Gen 2013 (intrahepatic CCC) and Jones et al. Science 2008 (PDAC) should be cited.

Minor:
- Line 41: It should be "than" instead of "that"
- Line 65: The long sentence "Patient outcomes..." should be rewritten. Outcomes should not be categorized as malignant etc. (rather histologies). Also: Please refer to the classification of tumors in the methods. Which lesions are being investigated (e.g. pancreatic ductal adenocarcinoma, ampullary adenocarcinomas, cholangiocarcinome) and according to which reference (WHO blue book)?

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.