Peer Review File

Reviewer A

Dear Authors,

the paper is original and well conducted, however, there are few issues:

- Results section (page 3): Authors state that four studies were included, but according to results 6 studies were considered. Moreover, later in the paragraph Authors report that 15 studies were included and reported in table 1, however in table 1 only 6 studies were included (and analysed). Please correct

Reply: We have modified our text as advised.

Changes in the text: Page 4, line 29-31

- Results section (page 3): Authors compare 6 studies, 5 on prostate tissue and one on urine to detect Prostate Cancer. The article on urine should be reported in results, but I would suggest to exclude it on the meta-analysis. The article is on Raman spectroscopy, but tissue and urine are different and provide different spectra. They appear not comparable. It would be incorrect to compare it, so that article might be excluded from meta-analysis and reported separately

Reply: We have modified our text as advised.

Changes in the text: Table 1 and figure 1-5

There are no other issues in discussion and conclusion

Reviewer B

The manuscript " Diagnostic accuracy of Raman spectroscopy for diagnosis of prostate cancer: A Systematic Review and Meta-Analysis" investigates the diagnostic accuracy of Raman spectroscopy for prostate cancer. The authors showed interesting results with a pooled sensitivity of 0.89, a pooled specificity of 0.91 and an area under the curve of 0.95 using 6 different studies. However, the manuscript needs major revisions before publication.

Specific comments:

Title

- Suggestion: Diagnostic accuracy of Raman spectroscopy for prostate cancer: A Systematic Review and Meta-Analysis

Reply: We have modified our text as advised.

Changes in the text: Page 1, line 1

Abstract
- A data is missing in this sentence: "The pooled sensitivity and specificity of RS were (95% CI: 0.87–0.92) and 0.91 (95% CI: 0.89–0.93), respectively."
Reply: We have modified our text as advised.
Changes in the text: Page 2, line 15

Introduction
- Use the standard abbreviation for prostate cancer (PC or PCa) instead of PrCa
Reply: We have modified our text as advised.
Changes in the text: Page 3, line 2

- Update references 1-4 (2019 or 2020)
Reply: We have modified our text as advised.
Changes in the text: Page 3, line 2

- Snap frozen tissues and urine samples are two types of samples with very different Raman spectra. The study using urine samples (Mistro 2015) should be excluded.
Reply: We have modified our text as advised.
Changes in the text: Table 1 and figure 1-5

- The Raman spectra obtained by Raman spectroscopy and Raman micro-spectroscopy are also different. You should only include one method.
Reply: Thank you for your kind comments.

Generally, Raman spectroscopy is commonly used together with Raman microscopy or Raman confocal spectroscopy. There are other types of Raman spectroscopy using portable version without microscopy. Those Raman spectroscopy which have been applied in included studies are all Raman microscopy type. Hence, it does not need to be distinguished from the other version including portable version without microscopy.
- Conducting a systematic review and meta-analysis with only 6 studies is not standard.
Reply: Thank you for your kind comments. As you say, 5 studies can be less for meta-analysis. However, I don't think these attempts are meaningless.

- Line 27: "Table 1 shows the characteristics of the 15 studies included." Only 6 studies appear in this table.
Reply: The table was reorganized into 5 studies.
Changes in the text: Table 1

Discussion

- Review references to line 30: "[27](31)"

Reply: We have modified our text as advised.

Tables

- Table 1: add separately a column "Number of patients" and another column "Number of Raman spectra"

- Table 1: MATLAB instead of Metlab

Reply: We have modified our text as advised.

Changes in the text: Table 1

Figures

- Add legends for each figure (not just the title)

- Figure 2: the text is too small

- Figure 3: "sensitivity" should be on the left (not next to "SROC Curve")

- Figure 4 and 5: use a grayscale instead of red and green

Reply: We have modified our text as advised.

Changes in the text: Figures