Peer Review File

Article Information: https://dx.doi.org/10.21037/asj-22-37

Reviewer Comments:

Comment 1: (page 4) BAP1 mutations can be germline or somatic
Reply 1: The text was edited to include somatic mutations

Comment 2: (page 4) Consider discussing the role of BAP1 (BRCA1-associated protein 1) as a marker for differentiating mesothelioma from reactive mesothelial proliferations. BAP1 stain showed utility in the differential of mesothelioma from other pleural and peritoneal mimickers, such as lung and ovary carcinomas, with specificity and sensitivity of 99/70% and 100/70%, respectively. (PMID: 26022455)
Reply 2: The role of BAP1 as a marker distinguishing peritoneal mesothelioma from other mesothelial deposits was included in the text.

Comment 3: (page 4) Please consider clarifying for the readers this [cisplatin] is for intraperitoneal chemotherapy.
Reply 3: he clarification in regards to cisplatin's survival advantage over mitomycin C in HIPEC was made for the readers in the text.

Comment 4: (page 4) Consider highlighting the importance of performing surgery at an experienced high volume center. PMID: 30646202
Reply 4: We emphasized that importance of having CRS and HIPEC performed at a large volume center has lower odds of morbidity and mortality compared to other high risk procedures.

Comment 5: (page 5) Are the authors describing the utility of PET CT in pleural or peritoneal mesothelioma or bicompartmental here?
Reply 5: This study utilized PET CT for staging in subjects with pleural mesothelioma. Specifically, they used PET CT to evaluate the peritoneum. This was clarified in the text.

Comment 6: (page 7) As of now, BAP1 does not have therapeutic implications but studies ongoing. Authors should consider highlighting the Medical and surgical care of mesothelioma patients and their relatives carrying germline BAP1 mutations (PMID: 35462085)
Reply 6: In this section, we convey the importance of BAP1 mutations and their function. Because of BAP1's pathway molecular pathway, intervening at various points could provide a potential therapeutic target. because of how they function. We have clarified that we wanted to emphasize the importance of the potential therapeutic targets that BAP1 can provide. Furthermore, we reviewed the article and updated the section.

Comment 7: (page 8) Other agents have been investigated in relation to BAP1 loss including Olaparib (PMID: 34661178) and Tazemetostat (PMID: 35588752)
Reply 7: We included the selected targeted therapies in our discussion of treatments of BAP1.

Comment 8: (page 8) Consider further discussion regarding the role of bevacizumab in MPM and data from PMID: 34261675

Reply 8: We have rewritten the paragraph on bevacizumab to better reflect its current role in the management of mesothelioma. Thank you for your suggestions.

Editorial Comments:
In this article, the authors provide a comprehensive review of treatments and relevant clinical trials for malignant peritoneal mesothelioma. The manuscript is well-organized and to make the report more transparent, we suggest that the authors add a search methodology section and modify the article to a narrative review or literature review (Just a reference). If the authors consider traditional review, please ignore the comments9-12.
We thank the Reviewer for the kind comments. We have updated the title and added a search methodology section, as requested.

Comment 1. As the authors' stated, "Mesothelioma is a disease of the mesothelial lining of the pleura, pericardium, peritoneum and the tunica vaginalis". Therefore, we kindly suggest that the authors give a rationale for their focus on peritoneal mesothelioma, for example, a detailed epidemiological description or other aspects.
Reply 1. We added estimated incidence rate of MPM and the fact that it is a rare disease, making it a particular challenge to study (lines 93-95).

Comment 2. Readers would be interested in a clarification of what existing similar reviews (e.g., PMID 30450291, 31610664) have and have not covered before "This review of the literature... in the treatment of MPM".
Reply 2. The aforementioned reviews provide a brief overview of types of emerging therapies while our review aims to provide a more in-depth analysis of the history, diagnosis, and treatment including new emerging therapies (lines 108-114).

Comment 3. We are pleased to see that the authors utilize a table to present the ongoing clinical trials on CAR-T cell therapy. How about other therapies? For readers' convenience, we prefer to see authors provide a table summarizing all clinical trials mentioned in the text (references need to be added), based on the different therapy approaches, such as target therapy, immunotherapy, and others.
Reply 3. Two additional tables have been created in order to summarize the aforementioned trials and have been cited in the text. Citations have been updated as well.

Comment 4. As an update on the treatment of MPM, it would be necessary for the authors to include more recent references, specifically from the past three years (currently there are only 10). This would strengthen the review and ensure that it is up-to-date.
Reply 4. During the literature review, there were few recent articles written that had updated data regarding novel therapies., Additionally, many of the clinical trials are continuing to accrue subjects and thus have not reported on their outcomes. A recent literature search performed did not identify any new studies with novel findings to include.

Comment 5. To keep the article focused on its main theme of an update on treatment for MPM, we suggest that the section on the history, clinical presentation, and diagnosis of MPM be shortened (currently it occupies half the article). The emphasis should be on discussing recent developments in the treatment of MPM. To make the article more insightful and well-rounded,

we would like to see more discussion of current controversies surrounding different treatment approaches, as well as the authors' own biases and perspectives.
Reply 5. Our previous title inappropriately conveyed that this is a review of only the treatment of MPM, but not the clinical diagnosis & evaluation of the disease as well. Our understanding was that this review article is a part of a special series on mesothelioma and that the rest of the articles cover pleural mesothelioma, therefore our intent was to provide a comprehensive review of peritoneal mesothelioma for readers who may not be as familiar with this disease as its pleural counterpart. If we were to shorten those sections much more, we are concerned the appropriate context for all readers might be lacking, particularly as it pertains to differences in the clinical presentation, evaluation, and surgical management between pleural and peritoneal mesothelioma. We did eliminate some areas of redundancy and shorten items that were not particularly novel to address the concerns in this item.

Comment 6. Lines 103-105," Recent data estimates that approximately..." lack evidence supported. Please add citations to back up.
Reply 6. We added the appropriate citation (now lines 154-157).

Comment 7. Please define ALL abbreviations mentioned the first time, such as PCI(line 153), and CRS(line 156).
Reply 7. We ensured that abbreviations were fully stated in the text prior to use.

Comment 8. Table 1 needs to be referred to in the 'CAR-T cell therapy' section.
Reply 8. We added a reference to the table in the section (line 507).

Narrative review Checklist
Comment 9. Narrative reviews should adhere to the narrative review checklist (https://cdn.amegroups.cn/static/public/18-narrative-review-Checklist.pdf) and each submission should include the Checklist as supplementary material. The relevant page/line and section/paragraph number in the manuscript should be stated for each item in the checklist. A statement "We present the following article in accordance with the narrative review reporting checklist" should be included at the end of the "Introduction". The manuscript should also include a Reporting Checklist statement in the footnote, "The authors have completed the narrative review reporting checklist."
Reply 9. Statements added to introduction (lines 119-120) and footnote (line 552). Manuscript includes all components included in the narrative review checklist.

Comment 10. We suggest the authors add "narrative review" or "literature review" at the end of the title.
Reply 10. We added narrative review to the title (line 1).

Comment 11. Please organize the abstract in the following separate subsections:
-Background and Objective: Describe the relevant background, reasons for conducting this review, and primary objectives of this review.
-Methods: Briefly describe the search strategy, including database, time frame, and language considerations.
-Key content and findings: Describe what the literature review will mainly contain and any key

findings during the literature review.
-Conclusions: Describe the main conclusions and how the review may potentially impact future research，clinical practice and policy making.
Reply 11. We re-formatted the abstract to meet these subsection headings (lines 40-83).

Comment 12. According to the Narrative review checklist, it would be better to add the Methods (a detailed description of the search process) after the "Introduction", including:
The date of search (specified to date, month and year)
- Databases and other sources searched (e.g., PubMed, Web of Science, etc.)
- Inclusion and exclusion criteria (study design, language, Year of publication, etc.)
we suggest the authors also add an independent supplement table to present detailed search strategy of PubMed, or the authors could present search terms connected by the Boolean operators in the Table. Here are two examples for your reference: https://atm.amegroups.com/article/view/91685/html (See Table 1-2); https://atm.amegroups.com/article/view/91974/html (See Table 1).