Reviewer’s report

Title: Indwelling pleural catheters for malignancy-associated pleural effusion: report on a single centre’s ten years of experience

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Reviewer: Saadia A Faiz

Reviewer's report:

The authors describe a 10 year experience of IPC use in a population with primarily women. Their purpose was to evaluate clinical outcomes of IPC in a variety of cancers, and to determine predictors of clinical outcomes and survival. They conclude IPCs are safe and effective. Although well written for the most part, there are some major flaws. Please see my point by point commentary below

1. IPC was introduced in 1997. It has become the standard of care. The results of the study are not novel except that this study is in Europe and has primarily women due to ovarian cancer.

2. The discussion reveals a review of the literature to date and there is very little integration of their data

3. Given that they have a large number of ovarian and gynecologic cancers, could consider looking at the data
   a. In terms of gynecologic specific malignancies with presence of ascites, modality of spread of the cancer, and survival of ovarian cancer based on presence of pleural effusion or not
   b. Another interesting aspect would be IPC in women compared to men. Perception would be less infection etc but not sure if this is the case.
   c. This is likely the largest series in Europe. Could there be differences in the care following placement that could be highlighted?

Major

1. Abstract. The term auto-pleurodesis was used in the ASAP trial. Others refer to this as "spontaneous pleurodesis" Regardless the objective of the IPC is really more for symptom management rather than for pleurodesis. The rate of spontaneous pleurodesis varies in trials anywhere from 16 to 66%. So using the term "regularly" is not valid.
2. Abstract. In the results section, there was no subsequent intervention required over what time? After 6 months? Within 30 days?

3. The purpose of the study is to: evaluate clinical outcomes with IPC in the largest single centre report to date in the general setting of malignancy. Unfortunately, this is not novel or unique in its purpose or results. IPC are now standard of care and have been described in numerous series for both solid and hematologic malignancies. Their outcomes also are no different than what has been described in the medical literature.

4. The secondary goal was to assess survival outcomes depending on patient and clinical variable to determine predictors of clinical outcome and survival to guided clinical care. Again there is no unique recommendations from this data described to support this.

5. Would refrain from using PE as the abbreviation for pleural effusion. It is inconsistently abbreviated in the text.

6. Patient and Methods. Line 23. Did patients undergo pleural biopsy or pleuroscopy?

7. Patient and Methods. Line 35. The Pleurx system has vacuum bottles. Why was gravity drainage used?

8. Results. Line 10. Did any of the ovarian cancer patient have ascites? If so did any have interperitoneal catheters?

9. Efficacy and AP. Line 47 Repeat intervention in what time frame?

10. Survival with IPC line 1. Survival really should be based on the disease or when the pleural effusion arised. See Faiz SA, Annals of ATS, 2017 14(6) in which authors assess survival in terms of diagnosis of disease and point at which pleural effusion arises. Survival after IPC just reflects advanced disease with pleural effusion.

11. Survival with IPC. Lines 13 and 17. These are conflicting statements: bilateral effusions carry a better prognosis, but catheter laterality prognostic. Is the bilateral effusions in ovarian only? Needs clarification.

12. Page 14, line 2. What is the rationale for bilateral effusions prognostic effect in ovarian cancer? Meigs? diaphragmatic defects? not the primary source of malignancy?

13. Page 14, line 14. Need to breakdown pleural infections. Really the one most significant is empyema. Also in results need to describe definitions of tunnel and empyema. Was as separate thoracentesis performed to diagnose empyema or just cultures from IPC?

14. Page 14, line 18. Infectious complications tend to occur in the first 6 weeks but up to 14 weeks after placement.


c. Faiz SA et. al. Annals of ATS 2017

15. What is the percentage of empyema? How many site infections and how many tunnel infections:

16. Page 14, line 41. Loculations are not significant unless the patient is symptomatic, and then if they require intervention (tpa, repeat procedure)

17. Did any patients get talc pleurodesis via surgery or the IPC?

18. The concluding paragraph lists the limitations of the paper. There needs to be concluding paragraph summarizing the main conclusions of the paper.

Minor

1. "Chronic" pleural effusion is somewhat ambiguous. Consider malignant or malignancy-associated

2. Key words. If pleurodesis is a main outcome, then add to key words

3. Line 38, add common after percutaneously

4. Discussion. Line 3, change PE to pleural effusion

5. There were 22 hematologic malignancies noted in table 1. What type were these?

6. Why not group all the gynecologic neoplasms together?

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Unable to assess
Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
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