

Peer review file

Article information: <https://dx.doi.org/10.21037/jtd-21-1185>

Reviewer A

Comment 1: “There are a lot of ways detect esophageal leak, it was not necessary to use grape juice.”

Reply 1: We agree that there are alternative ways to detect esophageal leaks, many of which mentioned in the discussion section of this paper. However, grape juice presented as a readily accessible and inexpensive tool in the hospital setting with very minimal risk for complications in the setting of leak.

Changes in the text: We have responded and revised our text. (See Page 11, line 263-266)

Comment 2: “How does author ensure grape juice was not contaminated?”

Reply 2: All containers are individually packaged and based on our knowledge, the majority of commercially available grape juice products undergo an “Aseptic Processing” technique which requires sterilization of the juice prior to packaging into separate, container. There is no guarantee that these grape juice products do not contain bacteria, therefore we would not consider this to be a sterile product by medical standards. However, we do not expect to see a difference in infectious complications rates given that barium and oral secretions are also un-sterile.

Changes in the text: No changes in text.

Comment 3: “Some references are not in the same format.”

Reply 3: Thank you for this comment, we addressed this to ensure all references are all in the same format.

Changes in the text: All references have been formatted to meet Vancouver

Reviewer B

Comment 1: Can the authors clarify how long do they watch for grape juice to leak? What if the patient has a minor (rather clinically insignificant) leak and that goes

undetected while patient is asked to resume a diet only for them to suddenly develop a mediastinal abscess a few days later. My biggest concern is missing a contained leak for days after a 'negative' grape juice test.

Reply 1: To address the reviewer's first question, typically grape juice is immediately seen if a leak is present, but is continually monitored for 4 hours to ensure a true negative test. Minor or contained leaks represents a limitation of this grape juice study. In reviewing our cited studies, Roh discussed that it is impossible to discern the true sensitivity/specificity of these small leaks even for barium. Therefore, there is no true gold standard for these patients. Barium may offer a better chance at detecting these contained leaks, but still has poor specificity in this context.

Changes in the text: See page 11 line 264-266.

Comment 2: "Is sterility of grape juice an issue? While barium sulfate or oral secretions are not sterile, do authors worry about grape juice being enriched in bacterial count. And when patients with leaks are explored, has grape juice been noted to contaminate the pleural space?"

Reply 2: As addressed in comment 2, all containers are individually packaged and based on our knowledge, the majority of commercially available grape juice products undergo an "Aseptic Processing" technique which requires sterilization of the juice prior to packaging into separate, container. There is no guarantee that these grape juice products do not contain bacteria, therefore we would not consider this to be a sterile product by medical standards. However, we do not expect to see a difference in infectious complications rates given that barium and oral secretions are also un-sterile. Grape juice has not been known to contaminate the pleural space in patients with explored leaks.

Changes in the text: No changes in the text.

Comment 3: The discussion is too long and redundant, esp lines 264-275 and 286-302. I believe the known complications and morbidity associated with an anastomotic leak are beyond the scope of the manuscript and the research question being investigated.

Reply 3: Thank you for your input. We have taken into consideration and removed the aforementioned portions of the discussion and re-formatted the manuscript accordingly.

Changes in the text: This is seen in the discussion section.

Comment 4: Lastly, the cost of a grape juice test vs. barium swallow is also worth exploring - while beyond the scope of this manuscript, something that can be explored in the next.

Reply 4: Thank you for your input. We have included this thought in our discussion for future research.

Changes in the text: We have responded and revised our text. (See page 14, lines 341-343.

Reviewer C

Comment 1: “One limitation that might need to be addressed - what was the nature of the chest tube output in the leak patients before the grape juice? Arguably, patients leaking where the leak communicated with the drain (and sometimes even without the communication) have a change in the chest tube output. In such patients, adding the grape juice might not help much, as an additional study is needed anyway.

Alternatively, patients may have a contained leak that has a negative grape juice test on pod 5. I’m a bit skeptical about advancing these patients without a swallow - meaning, if the contained leak was known, diet would be limited and careful observation would be performed. In the proposed algorithm, a patient with a contained leak may be advanced without limits. Finally, there was only 1 patient with that scenario, so conclusion may be limited.”

Reply 1: We still have seen issues with the contained leak with the barium swallow study. Additionally, those patients that did have a leak with grape juice, we noticed a noticeable change in the chest tube output after drinking grape juice, marked by the presence of purple grape juice in the tubing and system.

Changes in the text: Explained on Page 5, Lines 141-143.