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Reviewer #1: The manuscript gives review about the current knowledge concerning the preservation solutions used during abdominal transplantation.

Comment #1: *"The authors should describe the methodology used for the search of papers reported in this review."*

We agree with this statement and have revised our manuscript to incorporate this consideration. Please see methodology included below for the reviewer's edification and contained within in the revised manuscript on page 8:

> **METHODS**
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> Studies pertaining to preservation of intra-abdominal organs were obtained using pubmed. Searches were conducted using 1 term from each of the following two groups (to yield combinatory search strategies): (1) "University of Wisconsin," "Euro-collins," "Celsior," "Histidine-tryptophan-ketoglutarate "AND (2) "liver", "kidney", "pancreas", "intestine." Additional pertinent studies were obtained from investigation of references within relevant articles. Articles were limited predominantly to clinically based manuscripts (where appropriate) that were accessible.

Comment #2: *"Other recent published papers should be reported: for example 1) Oltean M1, Churchill TA. Organ-specific solutions and strategies for the intestinal preservation. Int Rev Immunol. 2014 May-Jun;33(3):234-44. doi: 10.3109/08830185.2013.853764. Epub 2013 Dec 12; 2) Parsons RF1, Guarrera JV. Preservation solutions for static cold storage of abdominal allografts: which is best? Curr Opin Organ Transplant. 2014 Apr;19(2):100-7. doi: 10.1097/MOT.0000000000000063."*

We are appreciative of these suggestions and have included them in the revised manuscript on page 15:

> Roskott *et al.* [32] have proposed that an intraluminal flush with preservation solutions be performed in addition to intra-vascular flush as the most venerable epithelial cells are localized at the apex of the villus which receives nutrition predominantly from absorption in the lumen. A similar approach has also been advocated by Oltean *et al.* as a measure to abrogate mucosal integrity and bacterial translocation. Overall, the lack of clinical data prevents a definitive determination of the optimal solution in intestinal transplants. It appears that UW or HTK infused intraluminally in conjunction with an intra-vascular washout is the best strategy at this time in optimizing intestinal integrity during the ex-vivo period.
>
> **CONCLUSION**

The advancement of transplantation has occurred, in part, to thoughtful scientific endeavors aimed at optimizing preservation solutions and diligent clinical endeavors. Notable differences exist between preservation solutions with respect to the composition of electrolytes, impermeants, buffers, antioxidants, and energy precursors have evolved. Based upon the aforementioned studies, meaningful evidence exists to guide effective organ preservation strategies in many cases while potentially ameliorating high healthcare costs. CEL and HTK are likely non-inferior to that of UW in the setting of renal, liver, and pancreas transplants in terms of graft and patient survival. Parsons *et al*. [79] have also suggested equivalence between UW, HTK, and CEL for abdominal transplants. As such, the use of a single preservation solution for abdominal as well as thoracic transplantation has been proposed (Karam *et al*.).

Comment #3: *"The preservation solutions reported are used for cold storage preservation and not for machine perfusion preservation: it should be declared in the first part of this review."*

We agree with the reviewer and have revised our manuscript to accurately reflect our intention to review preservation solutions in conjunction with cold storage and not machine perfusion preservation. Please see the highlighted segments in revised manuscript on page 8:

Cold storage preservation of grafts during the ex-vivo timeframe remains an important determinant of graft and patient survival. While important, optimal preservation solutions for use in machine perfusion are outside the context of this review and have been described elsewhere (Yuan et al.). A standardized approach to cold storage of organs is lacking and there is considerable clinical protocol variation among transplant centers[26]. Investigation into the ideal preservation strategy for abdominal transplantation is useful in helping to facilitate evidence-based decisions among clinicians and diminish variability.

Comment #4: *"The attempt to use a single solution for multiple organ procurement and preservation should be reported (i. e.: Karam et al 2005, doi:10.1111/j.1432-2277.2005.00083.x)."*

We appreciate this insight and have incorporated this concept into the revised manuscript on page 16:

The advancement of transplantation has occurred, in part, to thoughtful scientific endeavors aimed at optimizing preservation solutions and diligent clinical endeavors. Notable differences exist between preservation solutions with respect to the composition of electrolytes, impermeants, buffers, antioxidants, and energy precursors have evolved. Based upon the aforementioned studies, meaningful evidence exists to guide effective organ preservation

strategies in many cases while potentially ameliorating high healthcare costs. CEL and HTK are likely non-inferior to that of UW in the setting of renal, liver, and pancreas transplants in terms of graft and patient survival. Parsons *et al.* have also suggested equivalence between UW, HTK, and CEL for abdominal transplants (Parsons et al.). As such, the use of a single preservation solution for abdominal as well as thoracic transplantation has been proposed (Karam et al.).

Comment #5: *"Minor: Page 9, line 16: gluthaione."*

We apologize for this discrepancy and have revised this statement to reflect the true intent of the antioxidant properties within celsior (CEL) solution derived from glutathione. Please see highlighted revision located on page 9:

> Reperfusion injury results from the generation of oxygen free radicals through enzymes such as xanthine oxidase and can lead to lipid peroxidation of cellular membranes and cell death[35]. Antioxidants are useful to alleviate cellular stress and damage resulting from free radical formation therefore, incorporation into preservation solutions has been favorable[34]. UW contains the xanthine oxidase inhibitor allopurinol and the reducing agent glutathione[7, 32]. CEL also contains glutathaione however, it has a greater reducing capacity than UW as most of the glutathione in UW is present in the oxidized state[36]. Notably, CEL also contains the free radical scavengers mannitol and histidine while EC contains mannitol alone [34]. Tryptophan, mannitol and histidine ascribe antioxidant properties to HTK[34].

Reviewer #2: *"Latchana et al thoroughly review the literature on use of preservation solutions in abdominal organ transplantation. There have been no major advances on this topic in the last few years (accordingly, no reference in the review dates beyond 2012): however, the paper is balanced, well organized and enjoyable."*

> We wish to thank the reviewer for a thoughtful critique. Additionally, we have included recent work in this field. Please see reviewer #1, comment #2 above.