



**PEER-REVIEW REPORT**

**Name of journal:** World Journal of Gastrointestinal Surgery

**Manuscript NO:** 50428

**Title:** Polymyxin B hemoperfusion as a feasible therapy after source control in abdominal septic shock

**Reviewer's code:** 00733674

**Position:** Peer Reviewer

**Academic degree:** MD

**Professional title:** Doctor

**Reviewer's country:** Slovenia

**Author's country:** South Korea

**Reviewer chosen by:** Ruo-Yu Ma

**Reviewer accepted review:** 2019-08-16 06:49

**Reviewer performed review:** 2019-08-17 14:31

**Review time:** 1 Day and 7 Hours

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input checked="" type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language	(High priority)	<input type="checkbox"/> Anonymous
<input checked="" type="checkbox"/> Grade C: Good	polishing	<input type="checkbox"/> Accept	<input checked="" type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of	(General priority)	Peer-reviewer's expertise on the
<input type="checkbox"/> Grade E: Do not	language polishing	<input type="checkbox"/> Minor revision	topic of the manuscript:
publish	<input type="checkbox"/> Grade D: Rejection	<input checked="" type="checkbox"/> Major revision	<input checked="" type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input type="checkbox"/> General
			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input checked="" type="checkbox"/> No

**SPECIFIC COMMENTS TO AUTHORS**



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7041 Koll Center Parkway, Suite  
160, Pleasanton, CA 94566, USA  
**Telephone:** +1-925-223-8242  
**E-mail:** bpgoffice@wjgnet.com  
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This moderate-size case-control study uses propensity-score to assess the effect of polymixin B (PMX) hemoperfusion (HP) on clinical outcomes in presumed gram-negative sepsis after source control. The results are in accordance with larger randomized studies, which show some effect on hemodynamics and no effect on survival. Therefore the results are not very novel, but are still interesting. The manuscript itself is well written and english is very good. I have some questions/suggestions: Major issues: - hemodynamic stability was one of the main outcomes and both groups (after matching) were still different regarding the use of vasopressors (it is stated that the use of vasopressors was comparable, but only in yes/no sense, since there was significantly more use of vasopressin in PMX group, which is a stronger vasopressor than dopamine, which was more used in control group). Why did the authors not use VDI (vasopressor dependency index) as one of the propensity matching indexes? Furthermore, VDI values after 72h were similar in both groups (and close to 0), but the PMX group started with much higher VDI values, which probably contributed to the significant between group difference (Table 2). The groups should be matched for VDI! This is much more important than sex, causative microorganism etc. - how exactly were changes in outcome parameters (VDI, SOFA etc.) compared between the groups, since there are two values in each group (0, 72h)? In the methods it is stated, that paired samples T test was used, but this can only be used for within-group comparison of before/after (i.e. 0-72 h) but not between group. Perhaps ANOVA should be used to simultaneously assess the effect of group and time. - SOFA score, one of the main significant outcomes, includes serum creatinine, which is lowered by PMX-CRRT therapy. It is stated in the manuscript that the proportion of patients on CRRT was not different between the groups, but I believe this is not enough to exclude the effect of CRRT treatment on SOFA improvement. Perhaps a modified SOFA without renal sub-score could be used, or urine output should be analyzed, which is not affected by



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CRRT itself, but more directly reflects renal and cardiovascular status. Anyway, this should be also commented in the discussion. - how do the authors explain, that ICU stay was shorter in PMX group, although days on ventilator were comparable. What was keeping patients in the ICU? Vasopressors (than the days on vasopressors should be presented) or dialysis dependence (than this should be given)? It also seems that somewhat sooner discharge after PMX "moved" the mortality from ICU to the 28-days value (since overall mortality in the end was comparable). - nafamostat is known to have aggregation inhibitory and disaggregatory effects on thrombocytes (see DOI 10.1097/01.mat.0000209224.94089.bc). Do the authors think this could effect thrombocyte count and hemostasis-SOFA (which depends on thrombocytes) via reduction of aggregation caused by DIC/sepsis? Which anticoagulant was used for CRRT in the control group - please specify in the methods. Minor: - given the importance of mortality, I would suggest % mortality for both groups is added to the abstract, although the difference is not significant. - Figure 3: In the footnote it is stated that "Negative values of delta SOFA scores indicate improvement of organ function", but values on the graph are positive. This is probably an error, since patients improved.

## **INITIAL REVIEW OF THE MANUSCRIPT**

### ***Google Search:***

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- No

### ***BPG Search:***

- The same title



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160, Pleasanton, CA 94566, USA

**Telephone:** +1-925-223-8242

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**PEER-REVIEW REPORT**

**Name of journal:** World Journal of Gastrointestinal Surgery

**Manuscript NO:** 50428

**Title:** Polymyxin B hemoperfusion as a feasible therapy after source control in abdominal septic shock

**Reviewer's code:** 02650654

**Position:** Peer Reviewer

**Academic degree:** MD

**Professional title:** Doctor

**Reviewer's country:** Italy

**Author's country:** South Korea

**Reviewer chosen by:** Jia-Ping Yan

**Reviewer accepted review:** 2019-08-26 05:26

**Reviewer performed review:** 2019-08-26 05:43

**Review time:** 1 Hour

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
<input type="checkbox"/> Grade B: Very good	<input type="checkbox"/> Grade B: Minor language	(High priority)	<input type="checkbox"/> Anonymous
<input type="checkbox"/> Grade C: Good	polishing	<input type="checkbox"/> Accept	<input type="checkbox"/> Onymous
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade C: A great deal of	(General priority)	Peer-reviewer's expertise on the
<input type="checkbox"/> Grade E: Do not	language polishing	<input type="checkbox"/> Minor revision	topic of the manuscript:
publish	<input type="checkbox"/> Grade D: Rejection	<input type="checkbox"/> Major revision	<input type="checkbox"/> Advanced
		<input type="checkbox"/> Rejection	<input type="checkbox"/> General
			<input type="checkbox"/> No expertise
			Conflicts-of-Interest:
			<input type="checkbox"/> Yes
			<input type="checkbox"/> No

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7041 Koll Center Parkway, Suite  
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It would be interesting to have some notes about the patho-physiology of this treatment.  
Did the final outcome of these diseases necessitate of subsequent surgery?

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**PEER-REVIEW REPORT**

**Name of journal:** World Journal of Gastrointestinal Surgery

**Manuscript NO:** 50428

**Title:** Polymyxin B hemoperfusion as a feasible therapy after source control in abdominal septic shock

**Reviewer's code:** 00068723

**Position:** Editorial Board

**Academic degree:** MD, PhD

**Professional title:** Doctor, Occupational Physician

**Reviewer's country:** Japan

**Author's country:** South Korea

**Reviewer chosen by:** Jia-Ping Yan

**Reviewer accepted review:** 2019-08-26 04:03

**Reviewer performed review:** 2019-08-30 05:40

**Review time:** 4 Days and 1 Hour

SCIENTIFIC QUALITY	LANGUAGE QUALITY	CONCLUSION	PEER-REVIEWER STATEMENTS
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	<input type="checkbox"/> Accept	Peer-Review:
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The authors investigated the usefulness of hemoperfusion with polymyxin B (PMX-HP) to patients after surgery due to sepsis from abdominal infection. They found out that the PMX-HP was useful. The aim was clear, and the conclusion was useful. But information was limited. Was PMX-HP commercially available? If so, it was assumed that literatures exist on its clinical application. How did the other clinicians report? Or was this study the first report on application of PMX-HP after surgery? If so, logical flow should be clearly written from what was the problem in the authors' field to how PMX-HP was thought up. Figure 3. Where was this figure explained in the text? "Figure 3" should be inserted where the figure explained. Did the data indicate improvement SOFA score? How was the date obtained? Figure 3 seemed the only significant data of this study. This figure should be fully explained, and discussed. Discussion was long. Discussion should be focused on the significant of the study.

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