

## ESPS PEER-REVIEW REPORT

**Name of journal:** World Journal of Gastroenterology

**ESPS manuscript NO:** 25427

**Title:** Carbon dioxide insufflation in esophageal endoscopic submucosal dissection reduces mediastinal emphysema: a randomized, double-blind, controlled trial

**Reviewer's code:** 03213368

**Reviewer's country:** China

**Science editor:** Yuan Qi

**Date sent for review:** 2016-03-09 21:19

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CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	Google Search:	<input type="checkbox"/> Accept
<input type="checkbox"/> Grade B: Very good	<input checked="" type="checkbox"/> Grade B: Minor language polishing	<input type="checkbox"/> The same title	<input type="checkbox"/> High priority for publication
<input checked="" type="checkbox"/> Grade C: Good	<input type="checkbox"/> Grade C: A great deal of language polishing	<input type="checkbox"/> Duplicate publication	<input type="checkbox"/> Rejection
<input type="checkbox"/> Grade D: Fair	<input type="checkbox"/> Grade D: Rejected	<input checked="" type="checkbox"/> No	<input checked="" type="checkbox"/> Minor revision
<input type="checkbox"/> Grade E: Poor		BPG Search:	<input type="checkbox"/> Major revision
		<input type="checkbox"/> The same title	
		<input type="checkbox"/> Duplicate publication	
		<input type="checkbox"/> Plagiarism	
		<input checked="" type="checkbox"/> No	

## COMMENTS TO AUTHORS

From my point of view, the work is well-done and provides interesting results to the efficacy of CO2 insufflation for reduction of ME immediately after ESD and it merits to be published. Just, I suggest some minor modifications before publication. The Introduction gave a satisfactory literature survey on the similar topic and it outlined the proposed method well. Appropriate figures were given to make the paper understood easily. Also, there are few explanations of the rationale for the study design. For example, the study did not show if small sample size affect the validity of the experimental results.

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**Title:** Carbon dioxide insufflation in esophageal endoscopic submucosal dissection reduces mediastinal emphysema: a randomized, double-blind, controlled trial

**Reviewer's code:** 03476153

**Reviewer's country:** Spain

**Science editor:** Yuan Qi

**Date sent for review:** 2016-03-09 21:19

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CLASSIFICATION	LANGUAGE EVALUATION	SCIENTIFIC MISCONDUCT	CONCLUSION
<input type="checkbox"/> Grade A: Excellent	<input type="checkbox"/> Grade A: Priority publishing	Google Search:	<input checked="" type="checkbox"/> [ Y ] Accept
<input checked="" type="checkbox"/> [ Y ] Grade B: Very good	<input checked="" type="checkbox"/> [ Y ] Grade B: Minor language polishing	<input type="checkbox"/> [ ] The same title	<input type="checkbox"/> [ ] High priority for publication
<input type="checkbox"/> [ ] Grade C: Good	<input type="checkbox"/> [ ] Grade C: A great deal of language polishing	<input type="checkbox"/> [ ] Duplicate publication	<input type="checkbox"/> [ ] Rejection
<input type="checkbox"/> [ ] Grade D: Fair	<input type="checkbox"/> [ ] Grade D: Rejected	<input checked="" type="checkbox"/> [ Y ] No	<input type="checkbox"/> [ ] Minor revision
<input type="checkbox"/> [ ] Grade E: Poor		BPG Search:	<input type="checkbox"/> [ ] Major revision
		<input type="checkbox"/> [ ] The same title	
		<input type="checkbox"/> [ ] Duplicate publication	
		<input type="checkbox"/> [ ] Plagiarism	
		<input checked="" type="checkbox"/> [ Y ] No	

## COMMENTS TO AUTHORS

The primary endpoint of this study was to assess the efficacy of CO<sub>2</sub> insufflation for reduction of ME immediately after ESD. A total of 46 patients who were to undergo esophageal ESD were randomly assigned to CO<sub>2</sub> insufflation (CO<sub>2</sub> group, n = 24) or air insufflation (Air group, n = 22). Computed tomography (CT) was carried out immediately after ESD and the next morning. The incidence of ME immediately after ESD in the CO<sub>2</sub> group was significantly lower than that in the Air group (17% vs. 55%, p = 0.012). The incidence of ME the next morning was 8.3% vs. 32% (p = 0.066). However, there were no differences in pain scores or distention scores at any post-procedure time points. The work is well-done, well-written, documented and structured. The information included is interesting and the number of cases presented is very valuable. This study provides interesting results to the efficacy of CO<sub>2</sub> insufflation for reduction of ME immediately after ESD. But there were no differences in pain scores or distention scores at any post-procedure time points. It is possible that the sample size is small. In the literature, the usefulness and safety of CO<sub>2</sub> as an alternative to air in patients who undergo diagnostic or therapeutic endoscopy under conscious or intravenously sedated

conditions have been demonstrated in several randomized controlled studies. CO<sub>2</sub> insufflation is fewer adverse events. Air insufflation is associated with rare but serious adverse events of endoscopic procedures such as air embolism and tension pneumothorax. Most trials concerning CO<sub>2</sub> insufflation during various kinds of endoscopic procedures have demonstrated a reduction of pain and discomfort. However, most of the patients in this trial had no pain after the procedure and the mean VAS scores of pain and distension were consistently low levels not only in the CO<sub>2</sub> group but also ,unexpectedly, in the Air group, as the authors showed. In conclusion, Insufflation of CO<sub>2</sub> during esophageal ESD, as compared with that of air, significantly reduced postprocedural ME. However, Clinical significance in consequence of a reduction of ME was not demonstrated. It is possible that small sample size affect the validity of the experimental results. But, the safety and usefulness of CO<sub>2</sub> during esophageal ESD has been demonstrated. In the literature, patients with high-grade ME are more likely to develop severe inflammatory changes and a longer febrile period. In this trial, insufflation of CO<sub>2</sub> during esophageal ESD, as compared with that of air, significantly reduced postprocedural ME.