PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (**http://bmjopen.bmj.com/site/about/resources/checklist.pdf**) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below. Some articles will have been accepted based in part or entirely on reviews undertaken for other BMJ Group journals. These will be reproduced where possible.

ARTICLE DETAILS

TITLE (PROVISIONAL)	The efficacy of sodium bicarbonate preventing contrast-induced nephropathy in patients with preexisting renal insufficiency: a meta-analysis
AUTHORS	Zhang, Bin; Liang, Long; Chen, WB; Liang, CH; Zhang, SX

VERSION 1 - REVIEW

REVIEWER	Victoria Allgar University of York, England
REVIEW RETURNED	16-Dec-2014

GENERAL COMMENTS	The paper is a meta analysis of sodium bicarbonate preventing contrast-induced nephropathy in patients with preexisting renal insufficiency. 20 studies were identified. The results are presented well, but the manuscript needs proof reading as there are various errors e.g. spaces in the text and abbreviations. The main finding was that "pre-procedural hydration with sodium bicarbonate was associated with a significant decrease in the incidence of CIN among patients with pre-existing renal insufficiency(OR 0.67; 95%CI 0.47-0.96; P=0.027)." However, moderate heterogeneity was noted but it was not clear if a fixed or random effects model was undertaken. This is the case too in the sub-group analyses. Overall, a nice paper which just needs proof reading.

REVIEWER	Ahmed Ijaz Shah Mercer University, United States
REVIEW RETURNED	15-Jan-2015

GENERAL COMMENTS	1) Non-uniformity of CIN definition amongst the various studies is a concern, as pointed out by the authors. Performing a repeat analysis by including only those RCTs which have the same a-priori definition of CIN may be an option to decrease the moderate level of heterogeneity amongst the studies. 2) Minor grammatical/tense errors need to be corrected.

VERSION 1 – AUTHOR RESPONSE

Reviewer 1 Victoria Allgar

The paper is a meta analysis of sodium bicarbonate preventing contrast-induced nephropathy in patients with preexisting renal insufficiency. 20 studies were identified. The results are presented well, but the manuscript needs proof reading as there are various errors e.g. spaces in the text and abbreviations.

Answer: Thank you for your comments. We have revised spaces and used full name of abbreviations in their first presentations, for instance, CIN, Scr, CT, eGFR, RCT(s).

The main finding was that "pre-procedural hydration with sodium bicarbonate was associated with a significant decrease in the incidence of CIN among patients with pre-existing renal insufficiency(OR 0.67; 95%CI 0.47-0.96; P=0.027)." However, moderate heterogeneity was noted but it was not clear if a fixed or random effects model was undertaken. This is the case too in the sub-group analyses.

Answer: Thank you for your comments. We used random effects model to calculate moderate heterogeneity and have stated in the 'Data synthesis and analysis' of original manuscript [i.e. The outcome of fixed-effects model analysis demonstrated a statistical heterogeneity, so we selected the random-effects model (Dersimonian and Laird method)]. Subgroup analyses were used random effects model as well and we have stated in the 'Data synthesis and analysis' of revised manuscript.

Reviewer 2 Ahmed Ijaz Shah

Please leave your comments for the authors below
1) Non-uniformity of CIN definition amongst the various studies is a concern, as pointed out by the authors. Performing a repeat analysis by including only those RCTs which have the same a-priori definition of CIN may be an option to decrease the moderate level of heterogeneity amongst the studies.

Answer: Thank you for your comments. We quite agree with your idea and therefore excluded the studies using non-uniformity of CIN definition, then we found that heterogeneity across studies did not decrease expectedly but increased to approximately 60% (more than 48%), suggesting the various definitions of CIN may be not a source of heterogeneity. In addition, we perfomed meta regression according to definition of CIN and the result showed similar as well (P=0.92 > 0.05).

2) Minor grammatical/tense errors need to be corrected.

Answer: Thank you for your comments. We have revised grammatical and tense errors within our abilities and highlighted by using colored text.

We tried our best to improve the manuscript and made some changes in the manuscript. These changes will not influence the content and framework of the paper. And here we did not list the changes but marked in red in revised paper. We appreciate for Editors/Reviewers' warm work earnestly, and hope that the correction will meet with approval. Once again, thank you very much for your comments and suggestions.