

Re: "Laparoscopic vs open approach to resection of hepatocellular carcinoma in patients with known cirrhosis: Systematic review and meta-analysis"

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Core tip: The combination of effect sizes in the meta-analysis is based on several factors: type of design of included studies, type of data, heterogeneity among studies, numerical stability and accuracy and understandability of results. For continuous variables, the standard mean difference is recommended when different measurement scales in the studies are used to reflect the outcomes. However, the weighted mean difference is more suitable when studies included use the same scale to report the outcomes.

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TO THE EDITOR

Twaij *et al*^[1] have carried out a meta-analysis of cohort studies to review the currently available literature comparing laparoscopic to open resection of hepatocellular carcinoma in patients with known liver cirrhosis. We congratulate and applaud their important work, but several important issues should be noted.

First, in the "Statistical analysis" subsection of the paper, the author stated "to compute standard mean differences (SMD) for continuous variables". The combination of effect sizes in the meta-analysis is based on

Abstract

Twaij and colleagues have carried out a meta-analysis of cohort studies to review the currently available literature comparing laparoscopic to open resection of hepatocellular carcinoma in patients with known liver cirrhosis. We congratulate and applaud their important work, but several important issues should be noted.

several factors: type of design of included studies, type of data, heterogeneity among studies, numerical stability and accuracy and understandability of results. For continuous variables, the SMD is recommended when different measurement scales in the studies are used to reflect the outcomes. However, the weighted mean difference (WMD) is more suitable when studies included use the same scale to report the outcomes^[2]. However, information from the four studies suggests that the scale of the outcomes is the same for continuous variables. The WMD should be applied in this meta-analysis.

Second, in the “Statistical analysis” subsection again, the authors stated “Meta-analysis of results was performed using a random effects model... and I^2 test was used to assess data heterogeneity”. What is the meaning of data heterogeneity? $I^2 > 50\%$ or something else? It is ambiguous and the authors need to clarify.

Third, in Table 1, the study by Belli *et al.*^[3] has a rate of conversion to open of only 7%, but accounts for 76.19%

(blood transfusions), 46.88% (morbidity) and 41.27% (length of stay) of the total weights in Figures 4, 5 and 6, respectively. The authors should perform sensitivity analysis by omitting the study by Belli *et al.*^[3] to test the robustness of their results.

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- 2 **Higgins JPT**, Green S, editors. Cochrane Handbook for Systematic Reviews of Interventions 4.2.6. In: The Cochrane Library, Issue 4, 2006. Chichester, UK: John Wiley & Sons, Ltd., 2006
- 3 **Belli G**, Limongelli P, Fantini C, D’Agostino A, Cioffi L, Belli A, Russo G. Laparoscopic and open treatment of hepatocellular carcinoma in patients with cirrhosis. *Br J Surg* 2009; **96**: 1041-1048 [PMID: 19672933 DOI: 10.1002/bjs.6680]

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