Reviewer's report

Title: Which is the Best Treatment of Pediatric Upper Urinary Tract Stones among Extracorporeal Shockwave Lithotripsy, Percutaneous Nephrolithotomy and Retrograde Intrarenal Surgery: A Systematic Review

Version: 1 Date: 26 Apr 2019

Reviewer: Ephrem Odoy Olweny

Reviewer's report:

The authors present a systematic review and meta-analysis of PCNL vs URS vs SWL for the management of pediatric upper tract stones. The idea of comparing these treatment alternatives by meta-analysis is a good idea, but several methodological flaws and other issues makes this manuscript unpublishable in its current form. I have the below comments:

1) There are several grammatical and syntax errors throughout the manuscript. It would significantly be improved by hiring a professional scientific English language editing service.

2) In the Background, paragraph 1, the authors write "...the morbidity is parallel to the economic development." Do they mean the prevalence? Overall, the meaning of this sentence is confusing.

3) In the last paragraph on the Background, the authors state "...make it vital to define a better modality..." Once again this language muddies the meaning of the sentence. Ample studies have already demonstrated that ESWL, PCNL and RIRS are safe and efficacious in children, and so a better reason to do a meta-analysis would be to compare the treatment outcomes, including complication rates and treatment efficiency (i.e. achievement of SFR with the fewest number of procedures possible) of these modalities.

4) Methodologically, it seems like that authors first tested for heterogeneity before deciding whether to proceed with a fixed or random effects model. However, the more methodologically sound approach is to establish how the studies were sampled and then determine a priori whether to proceed with a fixed or random effects model.

5) Also, the goal of the study was to compare the 3 treatment modalities for pediatric upper tract stone disease. As these treatments have not to date been compared head-to-head in a single study, a more appropriate methodological approach would be to conduct a network meta-analysis. This would significantly strengthen the paper and its conclusions.
6) Presentation of results could be done more clearly. Since the main objective was to compare treatment modalities, authors could consider using major headings of "ESWL vs PCNL", PCNL vs RIRS: etc., and then under each of these headings, presenting the results for stone free rates, retreatment rates, complication rates etc. Better yet, as suggested above a network meta-analysis would enable comparison of stone free rates, retreatment rates etc. under a single banner.

7) Also with regard to results, it would be best to present most of the outcomes in side-by-side tabular form to better facilitate comparison across the modalities. There are far too many figures which are cumbersome and confusing to follow.

8) Under discussion of limitations, the authors should state that for the non-randomized studies, selection bias could be a major confounder, particularly given that indications for selecting each treatment modality differ at baseline and may vary by institution or region.

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