Author’s response to reviews

Title: Grade III Bone Cement Implantation Syndrome in Malignant Lung Cancer patient: a Case Report

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Editor Comments and answers:

The manuscript describes a rare syndrome with peri-operative implications. The manuscript should briefly include the following:

Comment 1. Diagnostic criteria of the syndrome.

Answer: There was no agreed definition of bone cement implantation syndrome. Till Donalson and colleagues in 2009 proposed the definition based upon the registry data, case reports as it is a rare phenomenon. It was proposed as “BCIS is characterized by hypoxia, hypotension or both and/or unexpected loss of consciousness occurring around the time of cementation, prosthesis insertion, reduction of the joint or, occasionally, limb tourniquet deflation in a patient undergoing cemented bone surgery.” The proposed definition has already been incorporated in the background of the study with references.

Comments 2. The grading protocol of the syndrome.

Answer: The grading protocol of the syndrome has been incorporated in the manuscript as suggested. It has been added as Table 1 with references in the manuscript with track changes.

Comment 3. Principles of medical management of the syndrome.
Answer: The principle of medical management of the syndrome has been incorporated in Table 3 with references with track changes.

Reviewer reports, comments and answers:

Michael Firstenberg (Reviewer 1): Overall, I think this is an important topic on a problem that maybe few are aware of. It is interesting and well written. My only major comments are:

Comments 1. The authors describe 3 grades of BCIS - but they do not describe them specifically - maybe consideration should be given to a table outlining each stage, estimated mortality.

Answer: Table 1. has been added in manuscript which describes three grades of bone cement implantation syndrome with incidences and expected 30 day mortality with references. It has been added with track changes.

Comment 2. likewise, the authors mention some risk factors - again, this might be worth a small table to convey this information.

Answer: Table 2. has been added in the manuscript which outlines the possible risk factor for bone cement implantation syndrome with references in track changes.

Comment 3. maybe in these tables could be included at an expansion of the discussion and consider including some information regarding treatment - especially in the OR and if the patient survives, management in the ICU.

Answer: Table 3. has been added as “Three-stage process to reduce the incidence of problems in patients undergoing cemented hemiarthroplasty for proximal femoral fracture” with reference and track changes.
Once the syndrome has been identified, management during resuscitation and later in the ICU is guided as right ventricular failure with therapy targeted at maintaining adequate preload and use of alpha-1 agonist. This has been mentioned as last sentence of second last paragraph in discussions and conclusion section with reference and track changes.