

Peer Review File

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Review Comments

Reviewer A:

Comment 1: I would delete rare. In my opinion more and more cars are on the ways, more accidents happen and trauma CT performed on all multi trauma patients and chest X-rays on minor chest traumas and this ways traumatic sternal fracture is found more and more.

Reply 1: The manuscript was revised.

Changes in the Text: Page 2, Line 27.

Comment 2: I would write (Ultrasonography is a rapid...to diagnose a sternal fracture and associated injuries.

Reply 2: We added the reviewer's suggestion to the manuscript.

Changes in the Text: Page 5, Line 116-117

Comment 3: Associated thoracic injuries is repeated here and line 98 and 99. I suggest avoid repetition.

Reply 3: The manuscript was revised. The first listing that was found has been deleted and the subsequent listing kept in place with the addition of mediastinal hematoma to the list as it was only listed in the first instance.

Changes in the Text: Page 5, Line 130-132

Comment 4: I would add.. and a cardiologist should be consulted.

Reply 4: The reviewer's suggestion was added to the manuscript.

Changes in the Text: Page 6, Line 146

Comment 5: Troponin I level increase takes at least 3 hours and this way there are other causes of increased Troponin I.

Reply 5: According to the guidelines, the patient would require a negative troponin (along with EKG) before blunt cardiac injury can be ruled out. If there is no other reason for admission, a negative troponin and a negative EKG in an otherwise stable patient with an isolated sternal fracture, discharge would be recommended.

Changes in the Text: No change was made in the text.

Reviewer B:

Comment 1: Your comment that a portable plain film of chest is often obtained first and may some degree of widening of the mediastinum does not make any sense. A sternal fracture should not show any widening of the mediastinum as that finding is reserved for more severe injuries such as an aortic injury. Please revise.

Reply 1: We have revised the manuscript as advised.

Changes in the Text: Page 5, Line 114-115.

Comment 2: I think your indications for surgery need to be updated and more descriptive. See the following two publications to refine this in your manuscript.

Bauman ZM, Yanala U, Waibel BH, et al. Sternal fixational for isolated traumatic sternal fractures improves pain and upper extremity range of motion. Eur J Trauma Emerg Surg. 2021

Klei DS, de Jong MB, Öner FC, et al. Current treatment and outcomes of traumatic sternal fractures—a systematic review. Int Orthop. 2018

Reply 2: A separate section was added under the treatment section for “indications for surgery”. One of the references suggested by the reviewer was already included in the first draft, and the other reference was added to the manuscript.

Changes in the Text: Pages 6-7, Lines 166-175.

Comment 3: I think you need to elaborate on the operative management of sternal fractures. The fact that a minimally invasive approach has been reported in the literature doesn't mean it is better than the open procedure which has been reported to be about a 45min procedure. Also, the plates and screws repair has be shown to be better than any other repair, which was not stressed in this manuscript.

Reply 3: The treatment section of the manuscript was expanded to elaborate on indications for surgery, surgical technique, and outcomes following surgical stabilization of sternal fractures.

We believe that open repair is the preferred approach by the vast majority of surgeons. As a review article, we believe it would be important to mention that a minimally invasive technique has been described. Our impression is that the manuscript

does not suggest that minimally invasive approach is better than open repair, our intent was merely to mention this isolated report.

Additional information was added to the surgical technique section of the manuscript, specifically addressing the use of plates and screws (including references 30, 31, 32, 33, 34).

Changes in the Text: Page 6-10, Line 158-254.