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Letter to the Editor
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Letter to editor: Risk Factors for Cement Loosening after Vertebroplasty for Osteoporotic Fracture with Intravertebral Cleft: A retrospective Analysis

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Dear Editor,

We read with great interest the manuscript published by Nakamae et al. [1] titled "Risk factors for cement loosening after vertebroplasty for osteoporotic vertebral fracture with intravertebral cleft: a retrospective analysis." The authors have done a well conducted study to identify risk factors of cement loosening following Vertebroplasty.

The authors in their results found various risk factors for this phenomenon including spinous process fracture, parkinsonism, intravertebral instability, and split fracture. The authors have mentioned how the presence of spinous process fracture could be related to higher instability that eventually may lead to cement loosening. Sugita et al. [2] classified five subtypes and identified three subtypes which progress to instability. Schnake et al. [3] classified osteoporotic fractures (OFs) and divided them into five subtypes. Notably, subtype 4 which includes pincer (split) fractures and subtype 5 which include associated distraction and rotation component are unstable and should be considered for surgical stabilization.

There is clearly a dearth of an accepted classification system for OF management [4]. Surgeons often rely on trauma classifications including Thoracolumbar Injury Classification and Severity Score, AO spine thoracolumbar classification system and others to assess for instability [4-6]. Based on these classifications, the association of spinous process fracture puts these fracture in the category of disruption of posterior ligamentous complex [5,6]. This injury mechanism, as we understand are of unstable pattern and vertebroplasty has to be done with caution [4]. Similarly, split fracture are considered to be a unstable fracture pattern and needs to be followed closely [3,5]. Cement augmentation in these fractures may not be adequate to support them.

Vertebroplasty is not an ideal indication for an overt instability or associated neurological deficit. Neurodeficit in OF is secondary to instability and not nerve compression [7]. This further stresses that cement augmentation to be avoided in instability [4,7].

Similarly, marked intra-vertebral instability which indicates pseudoarthrosis must be carefully observed for the presence of an occult posterior column injury [4]. Perhaps, it is reasonable to amalgamate OF classification and thoracolumbar classifications. Any fracture that is unstable in a non-osteoporotic patient should be assumed

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to be unstable in the osteoporotic spine, especially those associated with posterior column injury. These particular fracture patterns should be observed carefully and Vertebroplasty if done in these should be monitored closely. Again, the authors have done a commendable job and we congratulate them for their efforts and insight.

Conflict of Interest

No potential conflict of interest relevant to this article was reported.

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