

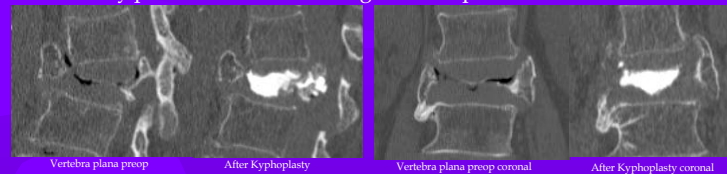
Background and Aims: In my study Vertebral Augmentation is been aimed for Vertebra Plana, Burst #, Multilevel # (up to 6 levels #) & traumatic safely with procedure improvisations of Anterior Epidural Balloon, radio opacification of cement with contrast dye & Seldinger needling Technique.



Material & Methods: We have used anterior epidural balloon safely inserted transforaminally in cases of burst fracture with posterior cortex dehiscence with retropulsed fragments & in cases of Vertebra Plana to safely reconstruct Vertebra without compromising spinal canal or neural structures with retropulsed fragments or Cement. In our study we have added universally available radio-contrast agent-iodhexol (Omnipaque) in the cement mixture to have a better cement visibility on fluoroscopy as it serves this purpose logically, safely & with bio-compatibility and lesser neurological damage.

Conventionally PVP is done by hammering needle into vertebral body which can be damaging in burst fracture causing collateral damage due to distracting fragments especially in traumatic non-osteoporotic #, neurological damage the most feared. Here we have used hand drill to bore through the vertebra precisely and then cement these fragments together. This is time saving as well. We have used seldinger technique using K-wire to have more navigability & maneuverability inside vertebra to reach ideal end point as Vertebroplasty needle can not be safely redirected through the

pedicle of already fractured vertebra. Once the K-wire is ideally located then Vertebroplasty needle can be easily passed over it as Seldinger technique.



Results & Observations: It is of paramount importance to have a safe PVP where radio-opacity of the cement is the prime denominator, meaning better the cement visibility lesser the ectopic leak complications. The cement visibility was good and we have not found any noticeable change in cement strength, and cement mechanics was rather favorable. There has not been any refracture in our series of 428 vertebroplasties over past 8 years. With procedure improvisations Vertebral Augmentation is possible, easier & safer than before in Burst #, multiple #s & Vertebra Plana. This certainly reduces the chances of cement ectopic leaks & neurological damage by avoiding retropulsion of bony fragments.

Conclusions: In this era of minimally access surgery replacing the open surgeries, Our procedure improvisations of Anterior Epidural Balloon, radio-opacification of cement with contrast dye & Seldinger needling Technique makes it safer and easier to do Vertebral Augmentations in place of over conservatism or major spine surgery, even in previously contraindicated and difficult cases of Burst #, multiple #s & Vertebra Plana.

