

Delay Onset Radicular Pain Due to Vertebroplasty Cement Leakage

Amir Kamalifa^{1*}, Firouz Salehpour², Farhad Mirzaii³, Samar Kamalifar⁴

¹Neurosurgery department, Urumia University of medical sciences.

²Neurosurgery department, Tabriz University of medical sciences.

³Neurosurgery department, Tabriz University of medical sciences.

⁴Student research committee, Arak University of medical sciences.

*Corresponding Author: Amir Kamalifar, Neurosurgery department, Urumia University of medical sciences.

Received Date: 06 December 2021 | Accepted Date: 31 December 2021 | Published Date: 10 January 2022

Citation: A Kamalifa, F Salehpour, F Mirzaii, S Kamalifar. (2022). Delay Onset Radicular Pain Due to Vertebroplasty Cement Leakage. Journal of Clinical Surgery and Research. 3(2); DOI: [10.31579/2768-2757/038](https://doi.org/10.31579/2768-2757/038)

Copyright: ©2022 Amir Kamalifar, This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Abstract

Neurological deficit due to Vertebroplasty cement leakage as an important complications with early sign and symptom but delay radicular pain and muscle weakness presentation was rare and need correct diagnostic approach.

Keyword: vertebroplasty; cement leakage; neurological deficit

Introduction

Vertebroplasty as an invasive pain relieving procedure in spinal painful osteoporotic fracture ,neurological deficit due to cement leakage less common but serious problem, neurological deficit mostly diagnosis in time of surgery [1] but we can't find any report of delay neurological deficit due to vertebroplasty cement leakage we report our patient compliant and our approach to him .

Case presentation

76 years old man visited with sever back pain an evaluated for pain and candidate for vertebroplasty cement injection procedure , no radicular pain and no evidence of root or other neurological involvement , procedure was done under local anesthesia and C- arm fluoroscopy guide

in prone position by unilateral transpedicular approach , at the time of surgery patient we can't find any evidence of cement leakage, patient Paine improve significantly and discharged without any neurological deficit, after 2 month patient return with sever radicular leg pain in left foot and evidence of muscle weakness lower than 4/5 in left foot future MRI showed evidence of root compression in level of L3 look like foreign body other than intervertebral disk , patient go under Ct spiral with thin cut in axial and sagittal reconstruction project showed hyper density particle in spinal canal and foramen(figure 1) , density of particle look like vertebroplasty cement density , patient go under standard laminectomy and leaked cement particle was removed from foramen and spinal canal , patient pain relived rapidly after surgery and muscle strength was improved after 4 month rehabilitation care.



Figure 1: CT scan without contrast (axial cut) in vertebroplasty level: hyper density particle in spinal canal and foramen.

Discussion:

Prior vertebroplasty was done by French radiologist for vertebral hemangioma, after that vertbroplasty was done in many disease but in last decade vertebroplasty turn to main procedure in treatment of painful osteoporotic fracture specially not response to conservative treatment [2], Reported complications of Vertebroplasty include infection, bleeding, transient radiculopathy, spinal stenosis, and pulmonary embolization, cement leakage estimate 30% but neurological deficit was rare(less than 1%) and many of them was diagnosis at the time of procedure [3], delay presentation very rare , but when we diagnosed of leakage additional procedure like open surgery should be considered . golden time of surgery not clearly but many author emphasis on as soon as possible decompression and remove of cement [4], in this specific case patient return with radicular leg pain and muscle weakness after 3 month however open surgery was done and outcome of patient satisfied the surgery team and patient weakness and pain relived completely, correct needle tip location and cement viscosity have major roll in prevent of leakage, experience of surgeon should not be ignored .

Conclusion

Neurological deficit due to vertebroplasty cement leakage rare but serious and immediate decompression can improve the prognosis

References:

1. Tang S, Fu W, Zhang H, Zhang H, Liang B. (2019). Efficacy and safety of high-viscosity bone cement vertebroplasty in treatment of osteoporotic vertebral compression fractures with intravertebral cleft. *World Neurosurg.* 132:739-745.
2. Kim JH, Ahn DK, Shin WS, Kim MJ, Lee HY, Go YR. (2020). Clinical Effects and Complications of Pedicle Screw Augmentation with Bone Cement: Comparison of Fenestrated Screw Augmentation and Vertebroplasty Augmentation. *Clin Orthop Surg.* 12:194-199.
3. Grelat M, Le Van T, Fahed E, Beaurain J, Madkouri R. (2018). Rare complication of percutaneous technique: intradural cement leakage and its surgical treatment. *World Neurosurg.* 118:97.
4. Jang HD, Kim EH, Lee JC, Choi SW, Kim K, Shin BJ. (2020). Current Concepts in the Management of Osteoporotic Vertebral Fractures: A Narrative Review. *Asian Spine J.* 14:898-909.



This work is licensed under Creative Commons Attribution 4.0 License

To Submit Your Article Click Here:

[Submit Manuscript](#)

DOI: [10.31579/2768-2757/038](https://doi.org/10.31579/2768-2757/038)

Ready to submit your research? Choose Auctores and benefit from:

- fast, convenient online submission
- rigorous peer review by experienced research in your field
- rapid publication on acceptance
- authors retain copyrights
- unique DOI for all articles
- immediate, unrestricted online access

At Auctores, research is always in progress.

Learn more <https://auctoresonline.org/journals/journal-of-clinical-surgery-and-research>