

SHORT TERM FOLLOW UP OF PATIENTS WITH OSTEOPOROTIC
VERTEBRAL COMPRESSION FRACTURES TREATED WITH
PERCUTANEOUS VERTEBROPLASTY

Abstract: In this study the mean age of 64 years with youngest case of age of 55 years and oldest case. 55 % of patients included in the study are female. One case had systemic hypertension, one case had Parkinsonism, and one case had Coronary Artery Disease. A significant reduction in analgesic intake was revealed. The patients without any analgesics increased from 0.5% (n=2) pre operative to 85.7% (n=30) at the six months follow-up (P less than 0.0001). pain score of ODS for immediate, 1 month, 2 month, 3rd month and 6 month and found that pain is reduced after immediate to 1 month till 6 month (p<0.05), and after 3rd month to 6 month no difference in pain score.

Keywords: Coronary heart diseases, analgesics

Introduction:

Osteoporosis is reported to be highly predominant in India. Females are mostly affected and almost 60% of the women population are reported to have this disorder. On average 45 lakhs Indian females above 60 years of age have had a fractured spine compared to osteoporotic hip fractures which accounts every year for around 2.5 lakhs cases [1-4]. The regular treatment of compression fractures includes life style modifications, analgesics, bracing and supplementary osteoporosis reversing interventions. To

Comment [MM1]: Make the abstract a concise summary of your research, that will cover a very short introduction of the objectives and a concise summary of the results that answers the objective of the your study

Comment [MM2]: This is unclear: oldest case? How many patients were included in the study?

Comment [MM3]: Are you trying to describe the profile of the patients included. This appears like that there are only 3 participants? I suggest if it's a part of your objective, describe the profile of your participants in general: eg: Majority (50%) of the participants are hypertensive etc...

Comment [MM4]: Kindly revise this into a more clear description of the outcome

Comment [MM5]: Please cite some review of related literature that support your hypothesis on the effect of vertebroplasty. It would also be better to discuss the outcomes measured on similar studies that you can compare with the result of your study

evaluate and analyze the short term functional outcome of Vertebroplasty in the management of stable osteoporotic wedge compression fractures of both lumbar and thoracic vertebrae.

Methodology:

Patients with thoracic and lumbar vertebrae osteoporotic fracture were included in the study. Patients were investigated with Chest X-Ray, ECG, CBC, RFT, Random Blood Sugar, and Blood grouping and typing, which were required to get anesthetic fitness for the procedure. Other investigations like Serum Calcium, LFT, ALP, Acid phosphatase, Urine Bence Jones Protein were done to evaluate the cause of fractures. After radiological examination procedure was performed the patient was prepared in the ward in the morning on the day of surgery .

A Radiolucent and image intensifier compatible operating table was used. An indwelling Foley's catheter was maintained during surgery. The patient was positioned prone; the area to be operated was visualized under C arm image intensifier. C arm was arranged such that Anteroposterior, lateral and oblique view could be taken if required during the procedure. Using marker pen, level of the fracture was marked under C- arm control. Area to be operated was painted using povidone Iodine and draped. After general anaesthesia , 20ml of lignocaine with adrenaline was infiltrated over the proposed site of operation. Under image intensifier we located the pedicle percutaneously, a small incision was made lateral and superior to the cutaneous pedicle location which allowed proper convergence through the tissues to the proposed pedicle entry point. Using Vertebroplasty Cook's needle of size 11

Comment [MM6]: Is this the objective of the study? If this is the objective, I suggest to make it clearer, on what are the outcomes you want to measure ?

Comment [MM7]: Please state clearly your Inclusion and Exclusion Criteria, your population, the place or center of the data collection and the time duration.

2. Data Collection Form Index and the Variables that were collected .

3. CONSENT and ASSENT taken? Kindly indicate in your methodology

4. Please include the definition of terms used for a better understanding of the reader

Comment [MM8]: METHODOLOGY is very important: The method of the conduct of the study should be clearly illustrated .Population Inclusion and Exclusion, Data Collection, Statistical Analysis and method , Sample population? How it was gotten ?

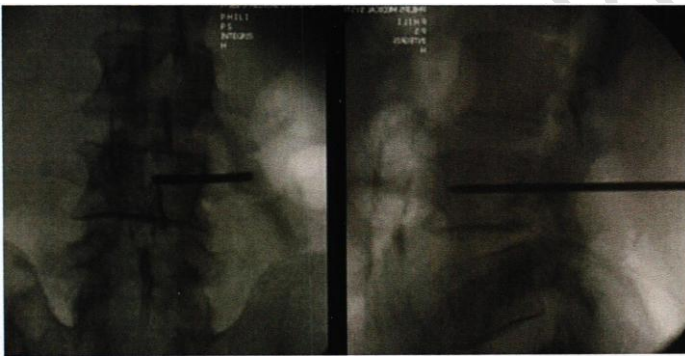
Comment [MM9]: Pls indicate if there is a specific model of the machine used

Comment [MM10]: What is the significance of this?

Comment [MM11]: Who is doing the procedure? Done by Certified Interventional Radiologists? Please indicate

gauge 115cm entry point was made at 10' o clock position on the lateral border of pedicle and switched c-arm to the lateral view to verify trajectory of needle & position. Through transpedicular approach needle was placed into the body at the junction of posterior two-third & anterior one-third of vertebral body which was confirmed in the lateral view.

Fig:1 C-Arm Image Showing The Trajectory Of Needle & Position In Anterior Posterior And Lateral View



Results and Discussion:

In our study we had mean age of 64 years with youngest case of age of 55 years and oldest case of age 80 years. 4 cases had associated co morbid conditions out of which one had Diabetes Mellitus, one case had systemic hypertension, one case had Parkinsonism, and one case had Coronary Artery Disease. For the evaluation of the segmental kyphosis (in terms of vertebral height) and alignment, 20 patient's x-rays

Comment [MM12]: Is there a table that describe the profile of your population? Demography?

TABLE OF THE RESULTS OF THE OUTCOME MEASURED WITH THE STATISTICAL ANALYSIS USED?

were radiologically assessed. Repeated measure analysis used to find statistical difference significance of pain score of ODS for immediate, 1month, 2 month, 3rd month and 6 month and found that pain score reduced after immediate to 1 month till 6month($p<0.05$), and after 3rd month to 6month no difference in pain score. We don't have much improvement in the Beck index. Whereas Balloon Kyphoplasty has shown the ability to restore and increase in vertebral body height and Beck's which improves the alignment

Comment [MM13]: WHERE IS THE CONCLUSION OF THE STUDY?

COMPETING INTERESTS DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly used products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

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