Medical Management Practices in Patients with Clinically Apparent Osteoporotic Fragility Fracture – In Indian Setting

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INTRODUCTION

- Osteoporosis poses a huge challenge in India, with reported prevalence rates varying between 8% to 62% in Indian women.[1]
- Osteoporosis usually remains undiagnosed until a fracture occurs, and if untreated, may lead to subsequent secondary fractures, resulting in pain, mobility impairment and functional limitations.
- These in turn may impact the physical and mental well-being of the patient, affecting the overall quality of life (QoL).[2]
- Despite high prevalence, data is scarce on the current management practices followed in Indian patients with clinically apparent osteoporotic fragility fracture.
- Hence this pan India study was conducted to understand the demographics, patient characteristics, contributing risk factors, management practices and the effect of teriparatide treatment on procollagen type-I N-terminal propeptide (P1NP) bio-response marker in these patients, in Indian real-world setting.

OBJECTIVES

- To determine the patient demographics and contributing risk factors in patients with clinically apparent osteoporotic fragility fracture.
- To understand the current management practices followed in Indian patients with clinically apparent osteoporotic fragility fracture.
- To determine the change in P1NP at 3 months from baseline in patients treated with teriparatide.

REFERENCES

1. Khadilkar AV, Mandlik RM. Int J Womens Health. 2015; 7: 841-850.
2. Little EA, Eccles MP. Implementation Science: IS. 2010; 5:80.

CONFLICT OF INTEREST

Dr. Billa authored this poster in the capacity of employees of Abbott Healthcare Pvt Ltd. All other authors have declared and confirmed that there is no conflict of interest with respect to the authored poster. Dr. Shalini Nair (Abbott) provided medical writing support for the poster.

METHODS

- Study design: A prospective, multicentric, epidemiological study in Indian patients visiting orthopedist with fragility fracture
- Centers: 20 centers in India
- Study duration: 21 Months (July 2015 to Apr 2017)
- Study visits: Baseline; Visit 1(month 3); Visit 2(month 6); Visit 3(month 12)

Inclusion Criteria

- Adults (⩾ 50 years) with fragility fracture, being recommended anti-osteoporotic treatment (excluding calcium/vitamin D).
- Patients clinically diagnosed with osteoporosis as a cause of fragility fracture.
- Patients with record of BMD DXA scan at baseline visit or are scheduled for BMD DXA scan within 4-6 weeks of baseline visit.
- Patients willing to participate and sign the patient authorization/consent form.

Exclusion Criteria

- Patients who received anti-osteoporotic treatment (except calcium and vitamin D) in last 5 years, before screening.

Study Variables

- Demographics
- Risk factors
- Fracture etiology
- Prior history of fragility fracture, if any
- Anti-osteoporotic treatment (vitamin D/calcium supplements), post fragility fracture
- Change in P1NP at 3 months from baseline in patients treated with teriparatide

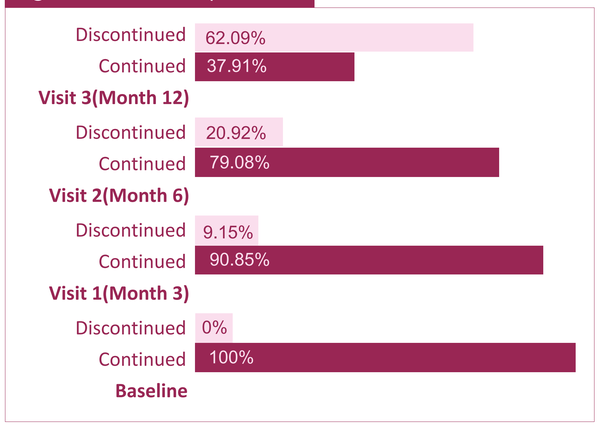
Statistical methods

- All variables were subjected to statistical analysis.
- Statistical analyses were performed using SAS® Version 9.3 (SAS Institute Inc., USA).

RESULTS

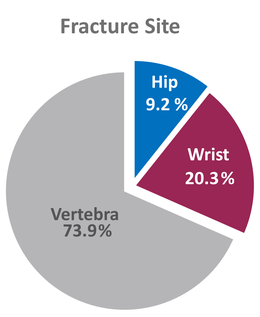
- A total of 153 patients were enrolled.
- Mean age of the study population was 66.86±9.11 years (women:86.93%; men: 13.07%); mean BMI was 24.70±94 kg/m².
- A total of 58 (37.91%) out of 153 enrolled patients completed the 12-month follow-up;

Figure 1: Patient Disposition



- Most commonly (⩾ 25%) identified environmental/medical risk factors were poor balance (34.57%), lack of assistive devices in bathrooms (32.10%), previous fall (28.40%) and obstacles in the walking path (27.16%).
- The sites of fracture were hip, wrist and vertebra.

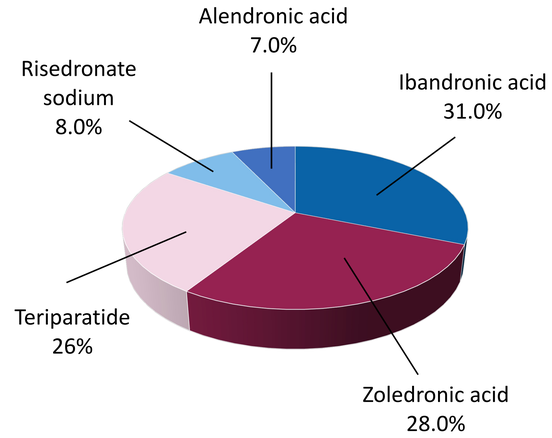
Figure 2: Details of Fragility Fracture



Fracture Site	Total N=206
Hip	**9.2%**
Femoral neck	71.4%
Intertrochanteric region of femur	28.6%
Femoral shaft	0
Wrist	**20.3%**
Distal Radius	100%
Vertebra	**73.9%**
Cervical	1.8%
Thoracic	30.1%
Lumbar	66.4%
Sacrum	1.8%

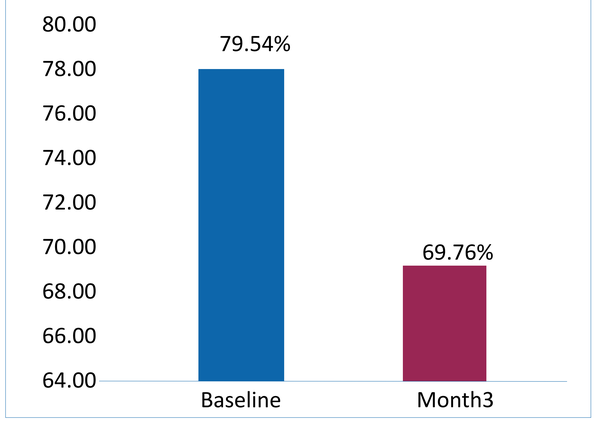
- Most commonly prescribed anti-osteoporotic treatment post-fragility fracture were ibandronic acid, zoledronic acid, teriparatide, risedronate sodium and alendronic acid.

Figure 3: Anti-Osteoporotic Treatment Post Fragility Fracture



- Mean (SD) change in P1NP at 3 months from baseline was >10 mcg/L (10.6±77.27mcg/L) in subjects on teriparatide.

Figure 4: Mean P1NP level (mcg/L) at Baseline and at Month-3



CONCLUSIONS

- This study sheds light on the current management practices among Indian orthopedic surgeons for treating patients with clinically apparent osteoporotic fragility fracture.
- Increase in PINP >10 mcg/L post teriparatide therapy provides an earlier confirmation of anabolic effect, which in turn may be a useful aid for the management of osteoporosis.
- Further, a large proportion of patients were lost to follow-up, indicating the need for increasing awareness among patients, for a successful long-term therapy.