

# Pharmaceutical Summit and Expo

## October 08-10, 2015 New Delhi, India

### A comparative evaluation of efficacy and tolerability of different dosage forms of Vitamin D3 in patients with osteoporosis

**Rahul Mohan**

Dayanand Medical College and Hospital, India

**Aim:** To compare the efficacy and tolerability of different dosage forms of vitamin D3 in patients with osteoporosis.

**Materials & Methods:** This is an open labeled, randomized, prospective study conducted in the Outpatient Department of Orthopaedics, in Dayanand Medical College and Hospital, Ludhiana. A total of 75 patients were enrolled for the study as per the inclusion criteria. Group 1 (n=25) patients were administered Inj. Vitamin D3 (Cholecalciferol) 6 lac IU Intramuscularly (IM) once a month for 3 months. In Group 2 (n=25), Cap Vitamin D3 60000 IU orally was administered once a week for 5 weeks and in Group 3 (n=25), Vitamin D3 granules 60000 IU (per sachet) orally once a week was given for 5 weeks. In addition, all patients were prescribed oral calcium (500 mg twice a day). The intensity of pain was measured using Visual Analogue Scale (VAS) score. The investigations included serum vitamin D3, serum calcium, serum phosphorus, serum alkaline phosphatase, parathyroid hormone, DEXA scan and X-ray of the affected area. The follow up visits were at 3 months and 6 months.

**Results:** After administration of Vitamin D3 (Cholecalciferol) in all three groups, there was significant improvement in Visual Analogue Scale (VAS) score in all the three groups at 3 and 6 months. There was statistically significant difference in serum calcium level, parathyroid hormone and vitamin D3 level in all the three groups at 3 and 6 months. There was no statistically significant improvement in T-score (DEXA scan) at 6 months. There was osteopenia in all the three groups at 0 months as seen in the X-rays. No improvement in the radiological findings was seen at 3 and 6 months in any of the groups. All three formulations were tolerated equally well.

**Conclusion:** Vitamin D3 does reduce the pain intensity in patients with osteoporosis. Maximum reduction in pain intensity is seen with the oral administration cap/granules of vitamin D3 as compared to the parenteral dosage form. The radiological improvement is not evident till 6 months of follow up. This may require further long term studies to substantiate the results.

#### Biography

Rahul Mohan has completed his MBBS from Tribhuvan University, Nepal and doing Postgraduation studies from Department of Pharmacology, Dayanand Medical College and Hospital, Ludhiana, Punjab.

[braj\\_rahul@yahoo.co.in](mailto:braj_rahul@yahoo.co.in)

#### Notes: