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Observation Of Denosumab Discontinuation Without Further Treatment in Clinical Practice

V. Torrente-Segarra

Rheumatology Department; Hospital Comarcal Alt Penedès-Garraf (CSAPG), Vilafranca del Penedès.

In response to article by McDonough et al
'Treatment Challenges when stopping denosumab' - Ir Med J; March 2022; Vol 115; No. 3; P567

Dear Editor,

We read with interest the article by McDonough et al in which several patients who discontinued denosumab were assessed through time after zolendronic prescription and also add one case in which no treatment followed denosumab discontinuation observing stable bone mass densitometry (BMD), suggesting the previous use of biphosphonates as 'bone protector' in a two-year BMD exam[1]. Osteoporosis (OP) is a disease that confers a risk of bone fracture that is defined by BMD, so far the gold standard technique its diagnosis. Antiresorptive treatment with denosumab has been shown to be very effective in reversing this risk, with significant improvements on BMD and a decrease in new cases of vertebral and femur fractures. The discontinuation of denosumab has been associated with both the appearance of significant BMD loss within the first year after the last dose administered, and the appearance of multiple vertebral fractures (MVF)[2]. There are data and authors that support denosumab withdrawn without increased cost/effective risk, basing this decision on the presence of predictive factors of poor prognosis (MVF), with the potential benefit of lower risk to suffer denosumab associated adverse events[3]. In a real-world experience, we have assessed BMD at 12 months and the presence of MVF after withdrawal of denosumab. This opportunity raised after all included patients decided to stop denosumab for both personal reasons and coincidence of dental procedures. We collected data on age, gender, previous fracture, duration (years) and type of previous treatment, denosumab duration course (years), femoral neck and lumbar spine T-score at denosumab discontinuation and at 12-month denosumab discontinuation on BMD (*Lunar Prodigy GE Healthcare®*) and percentage of change on BMD in each site, number of MVF at 12-month visit.

We included 11 patients, with a mean age at denosumab discontinuation of 70.9 (±7.46) years, and a mean duration of denosumab treatment of 4.8 (±2.32) years; the majority of patients had received treatment with bisphosphonates (81%), one bazedoxifene (9%), with a mean duration of 3.1 (±2.82) years; six patients (54%) had suffered at least one bone fracture prior to starting denosumab. A total of nine patients showed a mean percentage loss at lumbar spine T score of 4.19 (±4.53), while two patients presented a mean gain of 5.5 (±2.36). On the other hand, seven patients showed a mean percentage loss at femoral neck T score of 2.7 (±3.86), while three patients presented a mean gain of 2.6 (±1.49). After 12 months of discontinuation of denosumab, no fractures were recorded.

In summary, denosumab interruption for 12 months was associated with a mean bone mass loss, although there were two patients who presented improvement in BMD. Likewise, no MVF were observed during the same period of neither time nor important BMD loss after denosumab discontinuation with any further treatment in clinical practice, as McDonough et al also observed in one patient[1]. The interruption of denosumab may be a therapeutic option in a specific OP patient's population, although must be properly addressed in further and larger studies, as well as BMD reliability as follow-up marker.

Keywords:
Osteoporosis; denosumab; bone mass densitometry; multiple vertebral fractures.

Corresponding Author:
Vicenç Torrente-Segarra, MD, PhD
Rheumatology Department,
Hospital Comarcal Alt Penedès-Garraf (CSAPG),
Vilafranca del Penedès,
Espirall s/n,
08720 Vilafranca del Penedès (Catalonia, Spain).
E-Mail: vtorrenteg@csapg.cat

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