Switzerland - Vertebral fractures after Denosumab discontinuation, A retrospective study of 797 cases

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Overview

Identification

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Version

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Overview

ABSTRACT
A rebound of osteoclast activity during the 2 years after a treatment or prevention of osteoporosis with denosumab (Dmab) leads to an increased risk of vertebral fractures (VF). We attempted to identify the risk factors for these VF and to examine the protective role of bisphosphonates. For that, 22 specialists in Switzerland provided data of unselected patients, treated with denosumab for osteoporosis or breast cancer without metastases under aromatase inhibitors, who have received at least 2 injections of Dmab, with at least 1 year of follow-up after discontinuation. The questionnaire covered separately the periods before, during and after Dmab treatment, and registered clinical, radiological and lab data. For the analysis of the risk factors, the main outcomes were: the time to the first VF after the treatment, the presence of multiple VFs (MVFs), and the number of VFs. The incidence of VF was 16.4% before, 2.2% during and 10.3% after the treatment with Dmab. The risk of VF after Dmab discontinuation was associated with an increased risk of non-vertebral fractures. The pre-treatment predictors of the post-treatment fracture risk were a parental hip fracture and previous VFs. Further risk factures appeared later, such as low total hip BMD during and after denosumab, increased bone resorption markers and the loss of total hip BMD after the denosumab. Treatment with bisphosphonates, especially after Dmab, had a protective effect. Bisphosphonates given before Dmab did not further decrease the risk of VF in cases who got bisphosphonates after Dmab. This study shows that the risk of VF is poorly predictable before the prescription of denosumab. But during and after the treatment, bone resorption markers and BMD have a significant predictive value. Bisphosphonates after the treatment with denosumab are protective against VFs.

KIND OF DATA
Retrospective analysis of clinical data collected by questionnaire

UNITS OF ANALYSIS
834 female patients

KEYWORDS
Osteoporosis, fracture risk assessment, statistical methods, antiresorptives, denosumab

Coverage

GEOGRAPHIC COVERAGE
Switzerland

Producers and Sponsors

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FUNDING

Name	Abbreviation	Role
Amgen Inc.	Amgen Inc.	

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Name	Affiliation	Role
Perriraz, Margot	Center for Primary Care and Public Health (Unisanté)	Creation of questionnaire

Metadata Production

METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
Center for Primary Care and Public Health (Unisanté), University of Lausanne, Switzerland	Unisanté		Data publisher

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Version 1.0 (December 2020)

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Sampling

Sampling Procedure

Data Collection by an electronic questionnaire. with min. 155 items

Questionnaires

Overview

questionnaire – statistical analysis of the data

Data Collection

Data Collection Dates

Start	End	Cycle
2019-01-17	2019-11-15	N/A

Data Collection Mode

collection of questionnaires

Questionnaires

questionnaire – statistical analysis of the data

Data Processing

Data Editing

review of the questionnaires – completion on missing data – exclusion of insufficient data

Data Appraisal

No content available