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Abstract Submission FORM

MRONJ IN OSTEOPOROSIS PATIENTS VERSUS CANCER AND MYELOMA PATIENTS: CHANGING RATIO ALONG YEARS IN A REGIONAL NETWORK EXPERIENCE

SECTION: *1-A1*

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Background. Medication-related osteonecrosis of jaw (MRONJ) is mostly caused by antiresorptive agents - including bisphosphonates and denosumab – and/or by antiangiogenic drugs[1]. Antiresorptive agents, also known as Bone Modifying Agents (BMAs) have prescribed to: a) patients with advanced cancer disease (with bone metastases) and myeloma, mostly treated with High Dose BMAs (HD-BMA) and b) osteoporosis and other non-malignant diseases (bone, rheumatologic and autoimmune disorders), receiving Low Dose BMAs (LD-BMA)[1]. Incidence and prevalence of MRONJ in these categories of patients remain uncertain, with lack of solid epidemiologic data from large observational studies[1].
First reports of MRONJ cases were published on 2003; since 2004, some MRONJ cases were observed among patients receiving oral bisphosphonates (mostly alendronate and risedronate) but they appeared as few in first published case series, and the proportion of MRONJ cases related to osteoporosis was low (less than 10% of total cases).
Since 2005, all the oral care centres in Piedmont and Valle d'Aosta territory (4.4 million inhabitants) collaborated to register the observed MRONJ cases, with main history and clinical features. In years 2003-2006, no MRONJ case was observed among osteoporosis patients (versus 156 MRONJ cases among cancer and myeloma patients treated with bisphosphonates); in the following years, MRONJ cases were observed among osteoporosis patients receiving oral bisphosphonates and/or 60 mg denosumab, with numbers growing along years.
Patients and methods. We reviewed all MRONJ cases reported in a time span of 15 years (2007-2021) in our oral care centres, among cancer/myeloma patients and among patients with osteoporosis/non-malignant diseases, to look for possible change in frequency along years.
Results. Between 2007 and 2021, we registered 892 cases of MRONJ: 176 cases among osteoporosis/LD-BMA patients (mean 11.7 cases/year) and 716 cases among HD-BMA patients (mean 59.5/year).
In 2007-2011 years, the cases were respectively 43 and 224, for a mean of 8.6 and 44.8 per year.
In 2012-2016 years, they were 68 and 256. for a mean of 13.6 and 51.2 per year.
In 2017-2021 years, they were 65 and 236, for a mean of 13 and 47.2 per year.
The mean of cases per year was stable among HD-BMA cases (with a trend towards a slight decrease), whereas it increased among LD-BMA cases (above all in first years of the 15-year period). As a consequence, the percentage of LD-BMA related MRONJ cases on the total of observed cases increased from 15% (2007-2011) to 21% (2012-2016) to 22% (2017-2021).
Conclusions. MRONJ cases observed in the oral care centres in Piemonte and Valle d'Aosta increased in frequency over the last 15 years among patients affected by osteoporosis and non-malignant diseases, mostly treated with oral bisphosphonates and/or 60 mg denosumab. Further studies are warranted to investigate the incidence and prevalence of MRONJ in non-metastatic population undergoing LD-BMAs, as well as in advanced cancer and in myeloma patients receiving treatment including HD-BMAs, alone or together antiangiogenic agents.

**On behalf of oral care centers of: Turin, Novara, Alessandria, Asti, Cuneo, Orbassano, Aosta, Casale Monferrato, Vercelli and others

REFERENCES:

1. *Bedogni et al . Qeios 2023 at www.qeios.com/read/PBUJ6Z*

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