Epidemiologic Studies Are Needed To Clarify Whether Dental Modalities Could Be Predictors of Bisphosphonate Osteonecrosis of the Jaw in Breast Cancer Patients

ATHANASSIOS KYRGIDIS, a CHARALAMBOS ANDREADIS b

aDepartment of Oral and Maxillofacial Surgery and bThird Department of Clinical Oncology, Theagenio Cancer Hospital, Thessaloniki, Greece

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We read with considerable interest the paper by Giordano et al. [1] presenting data concerning i.v. bisphosphonates (BPs) from a large population-based cohort of women with breast cancer.

Giordano et al. [1] present essential data—from both univariate and multivariate analyses—describing predictors of BP use among breast cancer patients. The authors discuss that the potential toxicities of bisphosphonates, such as osteonecrosis of the jaw (ONJ), have increasingly been recognized, thus raising concerns about continuing BP therapy indefinitely. They report that the majority of women included in their study continued on bisphosphonates for the remainder of their lives [1]. However, only scattered evidence exists suggesting that longer BP treatment predisposes to ONJ development [2, 3]. We are prospectively studying BP treatment duration at our institution and results will be published when the study is concluded [4]. Thus far, based on our clinical experience, we believe that BPs are a safe choice for breast cancer patients provided that regular dental follow-up is carried out and certain dental modalities are avoided or performed in an expert hospital setting.

Recently, we undertook a single-center matched case-control study aiming to describe predictors of ONJ development among breast cancer patients receiving BPs. In the previous study, we reported that dental treatment modalities, such as tooth extractions and the use of dentures, are statistically significantly associated with ONJ development in breast cancer patients under BP treatment [4]. Of note, this was the first study providing solid evidence that ONJ is associated with tooth extraction and the use of dentures, updating the American Society of Clinical Oncology level of evidence from V to III [4]. We therefore concluded, based on the evidence, that oncologists should refer their patients for baseline dental evaluation and potential pretreatment prior to engaging in BP therapy [4].

Nevertheless, a case-control study is not able to establish causality. We recommended that further studies are needed to elucidate the potential role of dental modalities in...
ONJ development [4]. In this regard, the merged Surveillance, Epidemiology, and End Results–Medicare database used by Giordano et al. [1] could be of great importance because it would be very interesting if the authors reviewed breast cancer patient data looking for certain dental modalities that could have predisposed patients under BP therapy to ONJ development.

Observational epidemiologic studies are very important, not only to evaluate the actual burden of the disease but also to elucidate probable susceptibility differences among various populations. The ONJ incidence has been reported to be different among BP-receiving patients from various populations and we believe that this could be a result of differential susceptibility to ONJ [5]. Giordano et al. [1] may have the means to provide substantial evidence approximating the true ONJ incidence among BP-receiving breast cancer patients in the U.S. population.

Conclusively, the authors should be able to further elucidate both predictors of ONJ development and ONJ incidence differences, provided sufficient data are available, through a large epidemiologic study, which would have great impact in clinical oncology practice.

REFERENCES