11:30 am–Noon & 1:30–2:00 pm
Monday, April 27th • Lobby

PS1 – 31

Osteonecrosis of the Jaw in Two Dental PBRN Health Plans

Jeffrey L Fellows, PhD, Kaiser Permanente Center for Health Research; D Brad Rindal, DDS, HealthPartners Research Foundation; Andrei Barasch, DDS, University of Alabama at Birmingham; William Rush, PhD, HealthPartners Research Foundation; Christina Gullion, PhD, Kaiser Permanente Center for Health Research; Daniel Pihlstrom, DDS, Permanente Dental Associates; Lisa A Waiwaiole, MS, Kaiser Permanente Center for Health Research; Joshua S Richman, PhD, University of Alabama at Birmingham for the DPBRN Collaborative Group

Objectives: Osteonecrosis of the jaw (ONJ) has been recently associated with exposure to bisphosphonates (BPs). Incidence and risk factors are ill-defined. This Dental PBRN study (www.dpbrn.org; support: DE-16746, DE-16747) used electronic records from two participating health plans to estimate ONJ incidence and assess whether BP use increased the likelihood of ONJ.

Methods: We used multiple search strategies and manual chart reviews to identify ONJ cases in members of Kaiser Permanente Northwest and HealthPartners of Minnesota. Our cohort was members age 35 and older with medical and pharmacy coverage for at least one year during 1994 - 2006. We used a keyword search of electronic physician notes to flag suspected cases among patients with a diagnosis or procedure indicative of ONJ and then confirmed cases through manual chart review. Oral surgeons and general dentists identified additional cases among cohort members. We used logistic regression to estimate the odds of ONJ from BP exposure, adjusting for other risks.

Results: 37,290 of 572,602 cohort members had a diagnosis or procedure indicating the potential for ONJ. A key word search of physician notes and chart review found 14 ONJ cases; 5 more cases were found through dental providers. Six cases (31.6%) had an oral BP dispense prior to ONJ onset, compared to 21,163 cohort members (3.7%). Eight cases (42.1%) had a history of cancer, and 5 (26.3%) had osteoporosis, compared to 71,776 (12.5%) and 23,392 (4.1%), respectively, among all cohort members. Univariate and multivariate logistic regression were inconclusive due to the small number of confirmed ONJ cases.

Conclusions: The incidence of ONJ in this cohort was very low and limited our ability to assess risks. When compared to the larger cohort, the higher frequencies of oral BPs, cancer, and osteoporosis among ONJ cases suggest these may be risk factors for ONJ. The low number of cases resulted in logistic regression outcome predictors that were no better than random. The rarity of ONJ cases in our study may be good news for the millions of adults currently taking oral bisphosphonates, although more data are needed before we know for sure.