

Estimated absolute risk for osteonecrosis of the jaw associated with bisphosphonates

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Bisphosphonates are the first-line therapy for osteoporosis, which applies to postmenopausal women. However, FDA drug labels of bisphosphonates warn of a serious complication associated with bisphosphonates: osteonecrosis of the jaw. We search for clinical studies and extract the data within them to estimate an overall absolute risk of this adverse drug reaction.

We searched the PubMed for randomized clinical trials. The result includes 16 studies, and we include 4 of them (Jackson et al., 2014; Kizub et al., 2021; Rugani et al., 2014; Taguchi et al., 2019). These studies reported the number of patients with the occurrence of osteonecrosis. However, a notice is that these studies use different criteria for osteonecrosis.

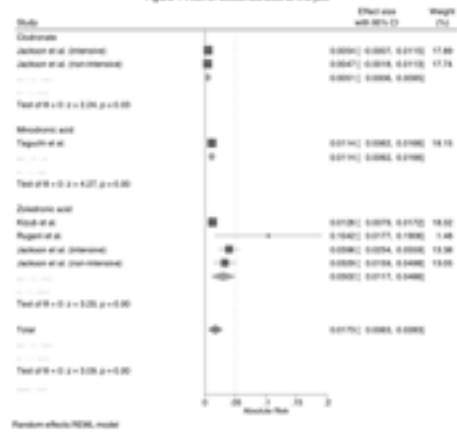
The result shows an overall absolute risk for osteonecrosis of the jaw is 1.73%, CI 0.63% to 2.83%. Based on this result, we think osteonecrosis of the jaw that is associated with bisphosphonates belongs to an incident with a small probability. However, the oral examination prior to bisphosphonate administration is still very important because dental procedures probably will increase the risk of this adverse effect (Kwoen et al., 2023; Poubel et al., 2018; Schwech et al., 2023).

In conclusion, osteonecrosis of the jaw is a rare adverse effect associated with bisphosphonates. Avoiding dental procedures during the period of bisphosphonates is an important preventive strategy against this complication.

Figure 1

Figure 1 Risk of osteonecrosis of the jaw

Figure 1 Risk of osteonecrosis of the jaw



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