

## **Abstract**

### **Identification of BRONJ (Bisphosphonate-Related Osteonecrosis of the Jaw) lesion treatment methods in adults: a systematic review study**

**Introduction:** Bisphosphonates are a group of drugs that are used to control metastatic bone tumors and treat osteoporosis. In recent years, we have been facing an increase in reports of osteonecrosis related to bisphosphonates, because the number of patients who are being treated with bisphosphonates is increasing, and in many cases, the duration of treatment has been prolonged, and with the increase in the time of use, it is possible risk of causing harmful effects of these drugs will increase. The purpose of writing the present research is to review published articles in the field of identification of BRONJ lesion treatment methods in adults.

**Materials and methods:** This study included four stages of search strategy, selection of studies and their systematic review, review of entry and exit criteria and finally statistical analysis of data. The search was conducted using the keywords bisphosphonate, osteonecrosis, osteoradionecrosis and jaw in SID, Scopus, Web of Science, MEDLINE/PubMed and between 2010-2022.

**Result:** 583 studies reported BRONJ cases and after identification, screening and selection, finally 55 studies were examined based on research objectives and prisma criteria. The quality of publications was good, average and poor. In the final selected studies, BRONJ lesion treatment methods in adults include medical treatment with minimally invasive surgery, minimally invasive and major surgery, only therapeutic intervention, laser treatment, growth factor administration, ozone therapy, bisphosphonate discontinuation in addition to other treatment methods. Hyperbolic oxygen, tripartite and surgery were the main treatments.

**Conclusion:** The results showed that the highest rate of complete recovery is related to major surgical treatment and the lowest rate is related to hyperbolic oxygen, and the highest rate of partial recovery is related to medical, minimally invasive and major surgery methods, and the lowest rate is related to the administration of growth factor (PRP or BMP2).

**Key Words:** BRONJ lesion, BRONJ lesion stage, bisphosphonate, systematic review