

## Biphosphonates Related Osteonecrosis: Prevention and Treatment Possibilities

Henrikas Rusilas, Andrius Gegužis, Albinas Gervickas

Henrikas Rusilas. Lithuanian University of Health Sciences V. Kudirkos 19, Kaunas, Lithuania 50276. Mobile Number: +370 64142041 E-Mail: [henrikas.h@gmail.com](mailto:henrikas.h@gmail.com)

### Abstract

**Background:** Bisphosphonates are a group of antiresorptive drugs used mainly for patients with osteoporosis, multiple myeloma, Paget's disease. Their high affinity to bone mineral and ability to inhibit bone turnover sometimes lead to bisphosphonates related osteonecrosis of the jaw (BRONJ). Due to the complexity of treatment, the prophylaxis of BRONJ is the key. **Objectives:** The objective of this review was to find most successful prevention methods and new approaches to treat BRONJ. **Methods:** A systematic review was carried out in the PubMed and Google Scholar databases using these keywords: bisphosphonates, BRONJ, prevention. All publications were published in English language. The review was registered on PROSPERO International Prospective register of systematic reviews [Reg.Nr. CRD42017068582]. **Results:** 20 of 534 publications were included in the analysis, study results on prevention of BRONJ were gathered. Several prevention methods were found: mouth sanitation, alternative surgery techniques, antibiotic prophylaxis, CTX testing and teriparatide hormone therapy. **Conclusions:** Any patient should get mouth sanitized before starting bisphosphonates therapy, atraumatic extraction techniques should be used to extract teeth, antibiotic prophylaxis is necessary, CTX testing and teriparatide hormone therapy are still debatable prevention methods. A Prospective randomized study is required to compare these BRONJ prevention methods.