
Piet Geusens, MD, PhD, reviews the efficacy of continuing bisphosphonate (BP) therapy for osteoporosis beyond 5 years. This has relevance to implant dentistry because of the possible complication of osteonecrosis of the jaw (ONJ) and severely suppressed bone turnover (SSBT). The introduction provides a review of available randomized controlled trials regarding the efficacy of BP treatment and the prevention of fractures in postmenopausal women with osteoporosis. The author emphasizes that in contrast to other drug classes used in the treatment of osteoporosis, BPs are unique in that they have a significantly long half-life (years) within bone. This prolonged half-life can result in an accumulation that may lead to SSBT. Most guidelines advocate continuing treatment as long as anti-fracture evidence is available. In daily practice physicians and dentists routinely treat patients who have received BPs for 5 or more years.

The question is whether long-term use may suppress bone turnover to an extreme and thereby reduce the drug’s benefit by making the bone less able to remodel and potentially increase fractures. Therefore, should treatment be continued after 5 years or should it be stopped? The author addresses three factors regarding this issue: 1) Is effective treatment maintained with continued use? 2) What happens when treatment is stopped for a drug holiday? 3) Are there safety concerns that might limit the duration of treatment?

Studies are cited that review the long-term effects of bisphosphonate treatment for more than 5 years in postmenopausal women. The author explains the pharmacokinetics of bisphosphonates, the significance of bone mineral density (BMD) and bone turnover markers (BTMs) and how these diagnostic tests should be applied in making decisions regarding if BP therapy should or should not be continued.

A recent Australian study is cited that revealed the incidence of ONJ in patients taking alendronate and having a tooth removed was 1 in 296 to 1130 cases (0.09% to 0.34%). The medium time to onset was 24 months for alendronate therapy.

There is a review of significant clinical implications: 1) What is the efficacy of treatment for greater than 5 years? 2) What is the fracture risk profile after 5 years of BP therapy? 3) Safety issues should be verified including occurrence of gastrointestinal intolerance, ONJ, and verification of any atypical fractures. 4) What is the level of compliance and can this be supported with BTMs?

Guidelines for continuation of treatment beyond 5 years include patients without a prevalent or incident vertebral fracture, in whom alendronate treatment was started because of osteoporosis in the femoral neck and in whom a T-score of less than $-2.5$ in the femoral neck is still found; those with a vertebral fracture at the start of BP; and patients taking glucocorticoids.

Guidelines for stopping bisphosphonate treatment after 5 years include patients taking BPs but do not have low T-score, prevalent vertebral or hip fracture; patients without a history of fracture in whom the alendronate was started because of osteoporosis in the femoral neck and who, after 5 years of BP therapy, have no instance of fracture and a femoral neck T-score of greater than $-2.0$; and those without a history of fracture in whom glucocorticoid.
treatment has been stopped and who have a T-score greater than -2.0.

Discontinuation of oral BP therapy should be considered at any time in the patients who present with gastrointestinal intolerance for oral BPs and in whom intravenous therapy can be considered, and patients who develop ONJ or atypical (e.g., subtrochanteric) fractures.

The author concludes “clinicians need to better understand the osteoporosis syndrome in view of the high variability of fracture risk profile, bone mineral density, and bone turnover markers to better individualized treatment especially in the context of long-term therapy.” The author provides references/recommended reading and highlights 4 papers of importance.

This manuscript is a must read for all implant dentists and I strongly recommend that they encourage their medical colleagues to read it as well.

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Linkow LI. The Legends of Implant Dentistry with the History of Transplantology and Implantology. New Delhi: Jaypee Brothers Medical Publishers; 2010.

Dr Leonard Linkow, the “genius thunderstorm” of oral implantology, has written a history and a tribute to the contributors of implant dentistry. There are apparently two forwards written by Drs Carl Misch and Ole Jensen. The preface is by Dr Dennis Tarnow. This book is written in the first person, and at times, the second person, in a readable conversational style. The first 85 pages, Section I, is a history that includes ancient and European tales of primitive developments and advances through time to the present day. While there are many “typos,” this book is a valuable compilation of the early implant designs, connections, components, and surgical techniques of the innovators and clinical scientists of oral implantology. By understanding the implant designs and techniques that were not successful, this gives the clinician insight into why present day implants are successful and how to avoid surgical and prosthetic complications. There are excellent drawings and illustrations that tell the story of the engineering and designs that led to the present day products that we now use. These pioneers and innovators found the pitfalls in implantology and bridged them with their intellectual efforts. One omission, however, is Charles Stent, the 19th century dentist innovator of the surgical stent which guides oral mucosal healing. Dr Linkow chronicles the developments of the late 20th century personalities and their attempts to make successful business models to bring implant innovations to practicing dentists. The last 235 pages, Sections II and III, are biographical and autobiographical compilations of the pioneers and innovators who had important roles in the advancement of oral implantology in recent history. Irrespective of the motivations of these pioneers and innovators, we clinical implant dentists have greatly benefited from their enterprising ventures. While sprinkled with off-topic embellishments, this book is a must, poolside, read for the serious implant dentist.

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