P-89

Case Report: The Efficacy of Zolendronic Acid in Patients with Osteogenesis Imperfecta

Müge Keskin, Arzu Or Koca, Murat Dağdeviren, Derun Taner Ertuğrul, Mustafa Altay

Department of Endocrinology and Metabolism, Keçiören Education and Research Hospital, Ankara, Turkey

Abstract

Introduction: Osteogenesis imperfecta (OI) or "brittle bone disease" is a clinically heterogeneous inherited connective tissue disorder. OI is characterized by low bone density. increased bone fragility. bone deformities. OI is classified as five types and among them. type III is the most severe form with progressive bone deformity. Bisphosphonates are known to increase bone density. to correct vertebral size and shape. and to decrease fracture risk due to osteoporosis.

Case: A thirty year old male was treated for osteoporosis in our institution for four years. Physical examination; height: 155 cm. weight: 55 kg. kyphoscoliosis. On laboratory evaluation; PTH: 62.9 pg/ml (15-65). calcium: 10.2mg/dl (8.4-10.2). albumin: 4.9 g/dl (3.4-5). 25(OH) VitD3: 37.3 ng/ml (25-80). phosphate: 4.1 mg/dl (2.5-4.9). alkaline phosphatase: 61U/l (45-129). magnesium: 1.9 mg/dl (1.8-2.4). glucose: 88 mg/dl(70-99). creatinine: 0.65 mg/dl (0.72-1.25). ALT: 14u/l (0-49). TSH: 2.05 µIU/ml (0.55-4.78). BMD before zolendronic acid treatment was L1-L4 total (Z score): -6.2 and after 3 dose every year zolendronic acid and vitamin D. calcium treatment. BMD was significantly improved; L1-L4 total (Z score): -0.7 (Table 1). We did not observe fractures and any other unexpected complications during this treatment period.

Conclusions: Bisphosphonate treatment has been widely used in patients with OI over the past decade. It can be started even at an early age. Treatment should be determined according to disease type and severity. In this case. we prefered zolendronic acid because of its potency and high bioavailability due to intravenous use. As oral bisphosphonates have very low bioavailability. they may not be a suitable alternative for OI.

Keywords: Bone mineral density. osteogenesis imperfecta. zolendronic acid

Table 1. BMD measurements (DEXA).

	L1-L4 total T score	L1-L4 total Z score	Left femur T score	Left femur Z score	BMD (g/cm²) L1-L4	BMD (g/cm²) Left femur
2013	-6.2	-6.2	-	-	0.411	-
2014	-5.4	-5.4	-3.4	-3.4	0.501	0.461
2015	-4.5	-4.5	-1.8	-1.8	0.598	0.900
2016	-3.7	-3.7	-3.7	-3.7	0.721	0.590
2017	-0.7	-0.7	-2.9	-2.7	1.015	0.643

Figure 1

Figure 2

DOI: 10.25179/tjem.20182202-P89