## Tenofovir Is A First and Effective Treatment for Chronic Hepatitis B

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Received date: October 04, 2022, Manuscript No. IPJBRR-22-15281; Editor assigned date: October 07, 2022, Pre-QC No. IPJBRR-22-15281 (PQ); Reviewed date: October 18, 2022, QC No. IPJBRR-22-15281; Revised date: October 28, 2022, Manuscript No. IPJBRR-22-15281 (R); Published date: November 04, 2022, DOI: 10.36648/ IPJBRR.8.6.61

Citation: Charbel K (2022) Tenofovir Is A First and Effective Treatment for Chronic Hepatitis B. Bone Rep Recommendations Vol.8 No.6: 61.

#### Description

Especially in postmenopausal women, osteoporosis and osteopenia are progressive disorders characterized by decreased bone mass. Body pain, fractures, hearing loss, and balance problems may all be associated with these. The purpose of this study is to assess osteoporosis or osteopenia in postmenopausal patients' audio vestibular function. In postmenopausal women, osteopenia and osteoporosis are risk factors for hearing loss and vestibular dysfunction. As a result, audio logical and vestibular testing should be performed on these individuals on a regular basis to monitor their hearing and vestibular function. People over 50 who do not have osteoporosis but have a lower bone density than average are more likely to develop osteopenia. The measurement of bone mineral density is what distinguishes osteopenia from osteoporosis in the diagnostic process. Tenofovir is an approved antiviral medication for the prevention and treatment of HIV infection as well as the treatment of chronic hepatitis B. Some patients may experience a decrease in their Bone Mineral Density (BMD). Infection with the hepatitis B virus has both acute and chronic clinical manifestations, making it a serious global health issue.

# **Acyclic Nucleotide Analogs**

Tenofovir is an acyclic nucleotide analogs adenosine monophosphate that has been shown to be effective in treating chronic hepatitis B and has been proposed by all guidelines. Tenofovir, as the first line of antiviral therapy, has the ability to reverse liver fibrosis and is an alternative drug in case of drug resistance. The main side effects of Tenofovir include renal failure, renal tubular impairment, and Tenofovir is a first and effective treatment for chronic hepatitis B, but little research has been done on its effect on osteopenia and osteoporosis. Other possible mechanisms include renal tubular dysfunction, which causes hypophosphatemia, and changes in the gene expression and function of osteoblasts. Data on the effect of Tenofovir treatment on Bone Mineral Density (BMD) in patients with chronic hepatitis B infection are incomplete. If Tenofovir is found to be effective in the development of osteoporosis in patients who are candidates for receiving this drug in prophylaxis form, a drug for preventing osteoporosis, such as calcium D or bisphosphonate, should be considered. The purpose of this study was to evaluate the incidence of osteopenia and osteoporosis in patients with chronic hepatitis B treated with Tenofovir. One of the most significant environmental influences on the development of osteopenia is nutrition. This study looked into how changes in diet affected markers of bone formation and resorption in postmenopausal women with vertebral osteopenia. In most cases, osteopenia is thought to be the first sign of osteoporosis, and it has been reported that people with osteopenia have a higher risk of developing the disease. Osteopenia can occur without symptoms when BMD decreases.

Hormonal and environmental factors strongly influence the amount of bone loss. The decrease in estrogen levels experienced by women during this time is the most common cause of postmenopausal osteopenia. Lifestyle factors like alcohol consumption, smoking, glucocorticoid drug use, and inactivity can all raise the severity of osteopenia. Regular physical activity has been shown to raise the Dual-Energy X-Ray Absorptiometry (DXA) scores of people with osteoporosis and osteopenia, preserve these scores, reduce the risk of fracture, and improve quality of life. Genes also play a role in bone metabolism, and the most common genetic factor is a family history of bone disease. Osteoporosis and type 2 diabetes mellitus, which affect a large number of older people worldwide, pose significant threats to public health.

### **Energy X-Ray Absorptiometry**

For the purpose of preventing osteoporotic fracture, it is necessary to investigate related factors of osteoporosis or osteopenia, particularly diabetic clinical characteristics, and to detect early Bone Mineral Density (BMD) in T2DM patients. Neurologic phenotypes are a prominent feature of phenylketonuria that lacks phenylalanine hydroxylase (PAH). However; osteopenia is seen in a subset of patients. Osteoporosis in PKU-affected children was first reported by Feinberg and Fisch which was later confirmed by Murdoch and Holman. The pathophysiology of PKU osteopenia is still unclear. PKU osteopenia was initially thought to be secondary to dietary therapy, which reduces or renders biologically inaccessible calcium, phosphorus, and other bone-forming materials; However, young patients who have received short-term therapy and patients who have never received diet therapy both show osteopenia, making the hypothesis that diets are to blame less plausible. There is no correlation between plasma Phe concentration and osteopenia in several studies; while other

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correlations are negative. There is no consensus regarding the risk of PKU osteopenia based on biochemical parameters like markers for bone formation markers for bone resorption and other biochemistry that is related to bone. A variety of childhood inflammatory arthropathies, including oligoarticular, polyarticular seronegative or seropositive, and systemic onset subtypes, make up Juvenile Idiopathic Arthritis (JIA). Atlantoaxial subluxation, synovitis, and cervical ankylosis are the most common symptoms in spine cases. Only a few published studies have mentioned that the lumbosacral spine may be affected in the adolescent age group.

We report a toddler with seronegative polyarticular JIA of the lumbosacral spine, initially suspected on radiographs and later

confirmed by MRI.A metabolic disease of the skeleton that results in fractures is osteoporosis. It is characterized by decreased bone mass and altered microarchitecture of bone tissue. It is a serious medical issue that affects men and women who have gone through andropause after menopause. Although it is common knowledge that osteoporosis affects the entire skeleton, atrophic changes vary. A major issue in dentistry is mandibular metabolic disorders in osteoporosis. Periodontal disease is significantly influenced by the quality of the mandibular bone tissue.