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COMPARATIVE EVALUATION OF THE USE OF ALENDRONIC ACID IN MENOPAUSAL WOMEN COMPLICATED BY OSTEOPOROSIS

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ANNOTATION
Biphosphonates are the main class of drugs used to treat osteoporosis and other diseases characterized by increased bone resorption. This study provides bone metabolism results such as calcium, alkaline phosphates , estrogen and ultrasound densitometry, which were taken during treatment with aleandronate. Undesirable effects were insignificant and manifested in the form of dyspeptic phenomena.

KEYWORDS: Osteoporosis, bisphosphonates, alendronate.

INTRODUCTION

Today, the world health organization (who) puts the problem of postmenopausal osteoporosis in fourth place after cardiovascular diseases, cancer and diabetes. For example, in Uzbekistan, densitometric examinations reveal osteoporosis in every third woman aged 50 years and older. That is more than 4 million people. Severe consequences in the form of fractures lead to disability and more than 30% of them need post-Natal care.

Bone tissue is a constantly updated dynamic system, where remodeling processes occur throughout life: bone formation and resorption. The postmenopausal period leads to a change in the balance between bone resorption under the influence of osteoclasts and the formation of new bone tissue, which leads to a decrease in bone mass and the development of osteoporosis [Gaidarova V. N., 2011].

Biphosphonates are the main class of drugs used for the treatment of osteoporosis (OP) and other diseases characterized by increased bone resorption. They strongly bind to the bone mineral and remain in the bone tissue for up to 1 year, suppressing bone resorption. Indications for the appointment of biphosphonates are: postmenopausal, senile, idiopathic and steroid osteoporosis, Paget's disease, bone metastases, ectopic calcification. Among all variants of osteoporosis, the predominant form is primary osteoporosis (postmenopausal and senile), which accounts for 85% of all cases. This study provides the results of bone metabolism such as calcium, alkaline phosphatase (ALP), estrogen, ultrasound densitometry, which were taken during the treatment with aleandronate. Undesirable effects were insignificant and manifested in the form of dyspeptic phenomena.

Today, osteoporosis is one of the most acute problems in modern medicine. The world health organization puts the problem of osteoporosis in its socio-economic and medical significance on the 4th place after cardiovascular, oncological diseases and diabetes mellitus.[1]

This high significance of osteoporosis is primarily due to the following two reasons. First, the high prevalence of the disease, which in turn is the basis of many studies to date. Second, there are high costs associated with the treatment of osteoporosis and its complications.

Over the past two decades, many drugs have been offered to treat this terrible disease.[2] Requirements for such drugs not only increase bone mass but also reduce cavity resorption. Two of these requirements are met by a group of preparations of biphosphonates. The effectiveness of drugs in this group in the treatment of osteoporosis may explain their ability to reduce the activation of bone remodeling. All biphosphonates are characterized by low absorption in the gastrointestinal tract (from 1% to 10% of oral administration of biphosphonates), which is slightly higher in young people, significantly reduced when taken with food.[3] from 20 to 60% of the absorbed biphosphonate is deposited in the bone tissue, the rest is excreted in the urine.[3] Biphosphonates can be deposited in other organs, such as the liver, spleen, stomach, which mostly occur with intravenous administration. The half-life in humans is about 2 hours. The rate of penetration of BF into the

bone is high it can be compared with the action of calcium and phosphate(4). the largest deposition of BF is detected in the places of bone formation. A number of studies have shown that BP is characterized by deposition in areas of osteoclast accumulation.[5]

Biphosphonates are active inhibitors of bone resorption, which has been shown in numerous studies by invitro and invivo.[7] BF slows down the conversion of osteoclasts to active osteoclasts by affecting osteoblasts. They also inhibit the activity of Mature osteoclasts by absorbing a biphosphonate-containing mineral or depositing a high concentration under the osteoclasts.[6]

The number of clinical trials of biphosphonates is still small, but their results are quite encouraging both in terms of bone mass gain and reduction in the number of fractures.[8]

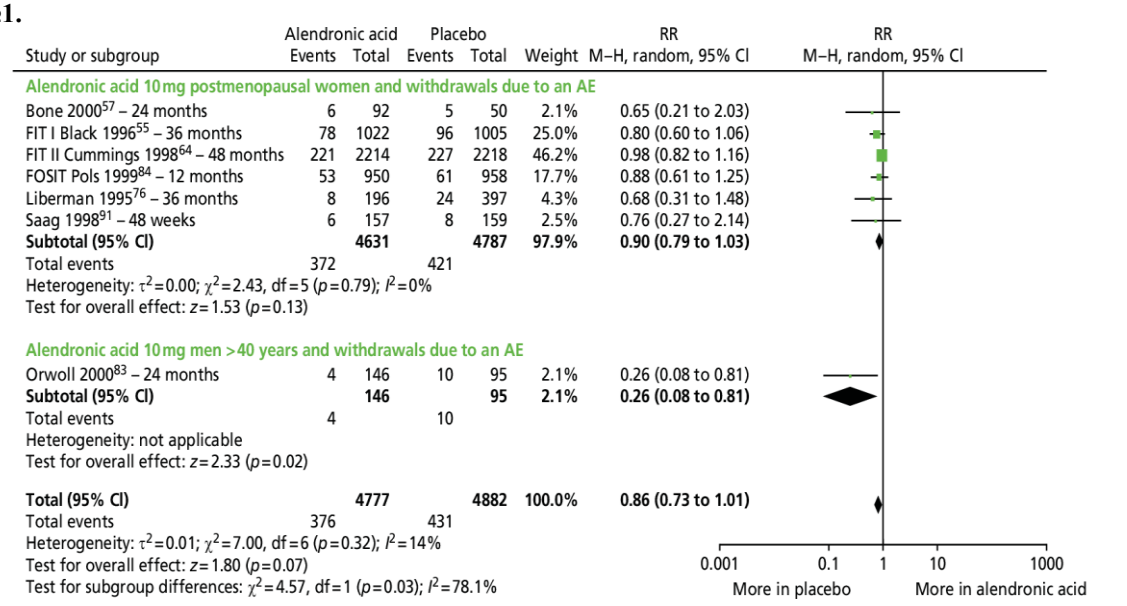
Purpose of research

Study of the effectiveness and tolerability of alendronate 10 mg every day in the treatment of postmenopausal osteoporosis.

RESEARCH MATERIALS AND METHODS

The method of investigation was the determination of calcium, alkaline phosphatase, and ultrasound densitometry. We conducted a prospective open-label, uncontrolled study of tolerability per week of 10 mg every day. The work is based on the results of a survey that included 90 women with a diagnosis of perimenopausal osteoporosis (55±5.2 years), who were prescribed treatment with aleandronic acid . 60 of them took Alendronate at a dose of 10 mg. The remaining 30 did not receive a placebo due to economic problems. Ultrasound densitometry was performed to determine the BMD. Table 1 shows the effectiveness of the therapy in comparison with placebo.

Table №1.



E 13 Withdrawals as a result of an AE in the alendronic acid group compared with placebo. M–H, Mantel–Haenszel.

Monitoring of the IPC of the carpal phalanx of the leg showed a significant increase of about 3% already 3 months after the start of taking aleandronate. By the end of the follow-up (12 months), a statistically significant increase in BMD was registered in alendronate recipients compared to the placebo group. Indicator of the T-test that is between the interval from 0 to -1.0 (norm). -1.0 to -2.5 osteopenia and -2.5 to -3.0 osteoporosis.

Table.2. Average indicators of changes in the T criterion before the start of treatment with alendronate

Before treatment

Measuring point	Alendronate	Placebo
Index of the carpal phalanx of the left leg	2.5*	2,5

After treatment

Measuring point	Placebo	Placebo
Index of the carpal phalanx of the left leg	1.5	2.8

Alendronate 70 mg lowered the level of bone resorption from -2.5 to -1.5. and in the placebo group, on the contrary, during the year in patients who did not take the drug, the level of resorption increased from -2.5 to -2.8.

Table.3. Indicators of bone metabolism in blood

From the above two tables, it can be seen that patients who took

Before treatment

Groups	Calcium	PS
1st group	2.8±0.4	340±20
2nd group	2.8±0.4	340±20

After treatment

Groups	Calcium	PS
1st group	2±0,4	208±30
2nd group	2,8±0,4	340±20

The level of markers of bone metabolism (calcium in the blood, schf) decreased by about 70-80%, while only 3.5% of the 1st group had dyspeptic phenomena. Thus, in our study, there is undeniable evidence of the effectiveness of aleandronate at a dose of 70 mg for oral administration. 1 time a week in the treatment of perimenopausal osteoporosis. Alendronate reduces the risk of fractures and increases bone MPK acting in parallel to biochemical markers of blood such as calcium, alkaline phosphatase to normal values.

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