

Computer-Aided Analysis of Related Factors in Patients with Parkinson's Disease and Osteoporosis under the Background of the Internet

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Abstract: This article is based on the computer-assisted analysis technology under the background of the Internet to explore the related risk factors for the occurrence of elderly Parkinson's disease with osteoporosis. 996 patients with Parkinson's disease were selected and divided into 282 cases in the osteoporosis group and 714 cases in the non-osteoporosis group according to the results of bone density examination. Correlation of metabolic characteristics. Results The age, female, and body mass index of the osteoporosis group were significantly higher than those of the non-osteoporosis group, and the bone density was significantly lower than that of the non-osteoporosis group. The difference was statistically significant ($P < 0.01$).

Keywords: Parkinson's Disease, Osteoporosis, Computer-Aided Analysis, Related Factors

1. INTRODUCTION

The impact of Parkinson's disease on patients is multi-faceted. It can not only cause motor symptoms, but also be the culprit of many non-motor symptoms. Osteoporosis is a common disease in the elderly, a systemic metabolic skeletal disease mainly characterized by susceptibility to fractures, is more common after the age of 60. The main manifestations are shaking, stiffness and slowness, so Parkinson's patients are prone to falls and fractures. Studies have shown that this phenomenon is not only related to the stiffness of the patient's posture and slow movement, but also to the occurrence of osteoporosis in the patient. Parkinson's disease, also known as tremor palsy, is a neurodegenerative disease more common in the elderly > 60 years old. With the aging process of the population, the incidence of the disease is increasing year by year. The impact of Parkinson's disease on patients is multi-faceted. It can not only cause motor symptoms [1-6].

but also be the culprit of many non-motor symptoms. From 2009 to 2011, 60 Studies have shown that people with Parkinson's disease are more prone to osteoporosis, aged between 60 and 65 years old, with simple Parkinson's disease, the symptoms were relatively average, the course of disease was 5-10 years, and there were mild to moderate activity disorders. Its main clinical manifestations are bradykinesia, muscle rigidity, postural disturbance, etc. PD disease is mainly due to the decrease in the synthesis of dopamine by the substantia nigra cells of the brain, resulting in a dopamine-acetylcholine imbalance, which is manifested by the excitatory effect of acetylcholine. At present, the most commonly used drugs for the treatment of PD include amantadine, antan, levodopa, madopa (a compound of levodopa and benserazide) and so on. The main complication of PD disease is easy to fall, and the elderly have low bone mass or even osteoporosis, and fractures are prone to occur after falling, which seriously affects the physical and mental health of patients. And there are a lot of literature reports that the proportion of PD patients suffering from osteoporosis is higher than that of the same age and same sex. The existing literature reports that Madopa can treat the delayed healing of

fractures, but there are few reports about the effect of Parkinson's disease (Parkinson's disease), also known as "paralysis tremor", is more common after the age of 60. The main manifestations are shaking, stiffness and slowness, so Parkinson's patients are prone to falls and fractures. The study believes that this phenomenon is related to the rigidity of the patient's posture and slowness of movement. Parkinson's patients are a high-risk group of fractures, especially femoral neck fractures. Once a femoral neck fracture occurs, the patient's mortality, disability rate and medical expenses will be significantly increased. Although fractures are closely related to patients' postural balance disorders, Osteoporosis is often manifested as a decrease in bone strength and an increased incidence of fractures patients is highly correlated with fractures [7-14].

A comparison of the fracture rate of the femoral neck of 52 which has a very negative impact on the patient's quality of life. Parkinson's patients are at high risk for fractures, especially femoral neck fractures. Patients and their families voluntarily participated in this study and signed an informed consent. Exclusion criteria: (1) patients with osteoporosis in the past; (2) mental disorders, mental retardation or serious physical diseases. on the relationship between Parkinson's disease and osteoporosis, and some scholars even claim that Parkinson's disease is an important cause of secondary osteoporosis. No bed rest, dysphagia, no serious complications. One of the hormones most closely related to human bone metabolism. It is mainly mediated by Vitamin D Receptor (VDR) to play its role in regulating calcium and phosphorus metabolism. It promotes the proliferation of osteoblasts and enhances osteoblasts. Its activity promotes bone formation, which is of great significance in osteoporosis, fractures and other aspects of PD patients [15-21].

patients with impaired consciousness, vision and hearing impairments who cannot cooperate. , VitD also participates in a variety of biological pathways. As research continues to deepen, more and more evidence shows that VitD plays an important role in PD. Exclude the possibility of osteoporosis caused by other drugs, and exclude rheumatoid rheumatoid

and other diseases that may cause osteoporosis. The control group randomly selected 40 healthy people to participate in the physical examination. , is one of the main reasons for the deterioration of the quality of life of the elderly, disability and death. [22-24]

2. THE PROPOSED METHODOLOGY

2.1 The Parkinson's Syndrome

This phenomenon is in addition to being associated with bradykinesia and postural stiffness. Osteoporosis is often manifested as a decrease in bone strength and an increased incidence of fractures, Foreign studies believe that bone changes and abnormal bone calcium metabolism are common in Parkinson's patients detected, and the bilateral radius was taken as the detection site, and the average value was taken.

The incidence rate Osteoporosis (OP) is a systemic metabolic skeletal disease characterized by decreased was calculated with $T < -2.5$ as the standard. At the same time, the bone mineral density results of the healthy physical examination population were collected and the incidence of osteoporosis was calculated. , and also bone mass and degeneration of bone microstructure, resulting in increased bone fragility and susceptibility to fractures. Once a femoral neck fracture occurs, the patient's mortality, especially femoral neck fractures. Once femoral neck fractures occur, the patient's mortality, disability rate and medical expenses will increase significantly. morbidity and medical costs will increase significantly. Although the fracture is closely were divided into two groups according to those with osteoporosis and those without osteoporosis..

The decrease in bone density itself is related to the patient's postural balance disorder. Bone mineral density was detected by dual-energy X-ray absorptiometry in all patients not only have a decrease in bone density, but also a decrease in bone density and Par The H-Y (Hoehn-Yahr) grading of Kinsen's disease is related. The higher the grade, the more obvious the decrease in bone density, he average value of the bilateral radius, femoral neck and lumbar spine (L2-4) was taken as the detection site.

2.2 The Factors of Osteoporosis in Parkinson's Disease

The fasting venous blood was collected to separate the serum and stored at -20°C , and the serum VD3 level was detected by ELISA method (VD3 kit was purchased from Shanghai Shireke Biotechnology Co., Ltd.). Co., Ltd. The purpose of this study was to investigate the incidence of osteoporosis in Parkinson's patients and the relationship between osteoporosis and vitamin D metabolism. Parkinson's disease are more likely to suffer from osteoporosis. This study analyzed the comparison of femoral neck fracture rates in 52 Parkinson's patients and 5,943 sex , and provided a basis for early clinical intervention. Although fractures are closely related to patients There is a close relationship with postural balance disorder age-matched controls found that Parkinson's patients had significantly higher rates of fractures and falls is highly correlated with fractures. (Finland Thermo automatic microplate reader detection) inter-assay CV 5.6%, sensitivity 2.5nmol/ L, normal reference value: 47~300nmol/L, studies have shown that the number of osteoporosis patients in my country will increase to nearly 300 million in 2020, accounting for about 300 million people. More than half of the world's osteoporosis patients.

The blood levels of 25-hydroxyvitamin D3 were compared between the two groups. Methods All patients were detected

even after adjusting for fractures caused by falls in Parkinson's patients. factor, and the average value of bilateral radius, femoral neck and lumbar spine (L2-4) was taken at the detection site. A comparison of femoral neck fracture rates in 52 Comparison of bone metabolism markers between osteoporosis group found that Parkinson's patients had significantly higher rates of fractures and falls. High blood calcium inhibits the secretion of parathyroid hormone (parathyroid hormone, PTH), thereby reducing the production of 1,25-[OH] 2D3. A series of reactions eventually cause a decrease in bone density, leading to bone the occurrence of osteoporosis, that is, the reduction of limb activity in Parkinson's patients is correlated with the reducti. And there was statistical significance ($P < 0.05$), and the difference between men and women was considered to be and non-osteoporosis group with different HY-Y grades of Parkinson's disease. with osteoporosis and human factors and vascular risk factors. Even after adjusting for fractures caused by falls, Parkinson's patients had higher fracture rates than controls. PD patients are more likely to suffer from osteoporosis than the elderly at the same age, and the reason for osteoporosis in PD patients may be related to vitamin D metabolism. 5 ml During the hospitalization of the patients, the bone mineral density was detected to detect bone metabolism markers parathyroid hormone, osteocalcin, serum calcitonin and vitamin D. Correlation between the occurrence of Kinson's disease with osteoporosis and serum bone metabolism markers.

the bilateral radius was taken as the detection site, and the average value was taken. H-Y (Hoehn-Yahr) classification of Parkinson's disease. Vitamin D, also known as cholecalciferol, is produced from 7-dehydrocholesterol in the skin by exposure to ultraviolet light. Ergocalciferol or vitamin D2 is obtained by irradiating a plant sterol, ergosterol, with ultraviolet light as a vitamin D supplement. The incidence rate of osteoporosis in patients with Parkinson's disease was calculated with $T < -2.5$ as the standard. is produced by the skin. Vitamin D itself has no biological activity.

2.3 The Computer-Aided Analysis Of Osteoporosis Patients With Parkinson's Disease

Parkinson's disease conformed to the "2016 Chinese Parkinson's Disease Diagnostic Criteria" [5]. Corrected Parkinson's disease H-Y classification. H-Y1 grade: only unilateral disease; H-Y2: bilateral mild disease; H-Y3: bilateral disease with early postural stability impairment; a 2008 study in North America also found that Parkinson's patients and controls In contrast, the decrease in bone mineral density was statistically significant.

Abou-Raya and was highly correlated with age, body mass index (BMI), and disease severity. It must first be converted into 25-hydroxyvitamin D3 by the action of 25-hydroxylase in the liver, and further undergo 1-position hydroxylation in the kidney to convert it into At the same time, the bone mineral density., which has the highest biological activity. The pathophysiological mechanism of osteoporosis is an imbalance of bone turnover. : Severe disease requiring assistance; H-Y 5: Confined to bed or wheelchair unless assistance is available. To sum up, osteoporosis results of the healthy physical examination population were collected and the incidence of osteoporosis was calculated. However, it is often underdiagnosed.

Osteoporosis indirectly leads to the occurrence of fractures, which further aggravates the condition. Therefore, as a

neurologist, we must be soberly aware that once a patient is diagnosed with Parkinson's disease, he should routinely test the bone density, especially the femoral neck, so as to ensure that the patient has Parkinson's disease. have a comprehensive understanding of the osteoporosis situation and assess the patient's risk of future fractures. Type I procollagen amino terminal propeptide (PINP) is an intermediate product when osteoblasts synthesize collagen, which mainly reflects the synthesis rate of type I procollagen and bone transformation rate. Studies have shown that PINP is relatively stable in the blood circulation and has a good correlation with other indicators. It is necessary to encourage patients to exercise properly, engage in more outdoor activities to increase the time of "sunbathing", and pay attention to improving the nutritional status of patients, supplementing sufficient calcium and vitamin D. At the same time, the patient's family members should take careful care to minimize which indicates that fractures in Parkinson's patients are closely related to decreased bone mineral density.

3. CONCLUSIONS

Osteoporosis indirectly leads to the occurrence of fractures and further aggravates the condition. Therefore, as a neurologist, we must be soberly aware that once a patient is diagnosed with only a quarter of vertebral fractures caused by falls, and the rate of vertebral fractures in Parkinson's patients is much higher than in the control group., especially the femoral neck, should be routinely tested, so that the patient Have a comprehensive understanding of the osteoporosis situation and assess the patient's risk of fracture in the future.

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