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A Short Note on Osteoporosis

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Introduction

Osteoporosis is a systemic disease defined by low bone mass and micro architectural degeneration of bone tissue, resulting in bone fragility and increased risk of hip, spine, and wrist fractures. Osteoporosis is a severe public health concern linked to disability and suffering due to its widespread incidence worldwide [1].

Description

Over 200 million people worldwide suffer from osteoporosis. Osteoporosis affects one in every three women and one in every eight men. The cumulative lifetime risk of hip, forearm, and vertebral fractures requiring medical attention is roughly 40%, which is comparable to the risk of heart disease. Osteoporosis is responsible for more days in the hospital in women over 45 than diabetes, myocardial infarction, and breast cancer. In the United States, osteoporosis accounts for about 44 million patient days in nursing homes and $13.8 billion in annual health-care costs. Because the earliest osteoporotic fractures often occur in the central region of the spine (thoracic and lumbar vertebrae) during the early stages of the illness, vertebral fractures are a key component of osteoporosis. New fractures are particularly likely to form in vertebrae near those that have already been fractured. Acute back pain may accompany vertebral fractures, which may go away or become persistent, dull back ache.

The mismatch between bone resorption and bone production is the pathophysiology of osteoporosis. Bone resorption is larger than bone creation in osteoporosis, resulting in a negative balance with a net loss of bone and an increased risk of fractures, leading in deformity and chronic pain. When nociceptive pain lasts for more than three months, it is considered chronic. One or a combination of the following factors may cause an imbalance between bone production and bone resorption: Bone resorption increased inside a remodelling unit; bone production decreased within a remodelling unit (incomplete coupling).

Because bone loss does not generate symptoms on its own, osteoporosis is known as the "silent illness." Patients may go years without experiencing any symptoms until they have fractures. Fractures, which can occur after minor, inconspicuous, or no trauma, provide the majority of the persistent discomfort associated with osteoporosis. Dorsal kyphosis with increased cervical lordosis ("dowager's hump") results from several thoracic compression fractures. Chronic, dull, agonising pain, particularly in the lower back, is caused by abnormal tension on the spinal muscles and ligaments. Back discomfort caused by vertebral fractures is one of the leading causes of poor quality of life.

Low bone mineral density is a symptom of osteoporosis. However, because osteoporosis is commonly misdiagnosed, the first clinical symptom is frequently a low-energy spine or hip fracture. Osteoporosis is diagnosed in one of two ways: by measuring bone mineral density with a bone scan (Dual Energy X-ray Absorptiometry scan [DEXA-scan]). A low-energy fracture in the spine or hip is present. A numerical rating scale can be used to assess the severity of nociceptive pain. Preventing fractures, reducing pain, and maintaining function are the main management aims for people with osteoporosis. Physical treatment (including TENS), psychological support, and exercise should all be used in conjunction with medical interventions [2-5].

Conclusion

Exercise programmes suited to specific patient abilities (i.e., the intensity/resistance of exercise may need to be adjusted to bone mineral density) are among the choices. Supplements for nutrition (vitamin D and calcium), Medications that have been shown to prevent future bone loss, Simple analgesics are the first type of analgesic. Tricyclic antidepressants, serotonin reuptake inhibitors, and antiepileptics IV. Nonsteroidal anti-inflammatory medications Opioids with a high potency.

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