

Osteoporosis In Hemiplegic Patients

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Commentary

Each year approximately 795 000 people experience stroke in the United States. Despite the declining mortality by improving health care, two thirds of the patients have motor deficits (usually hemiplegia) and they are faced with many complications [1,2].

Hip fracture is a serious complication seen in stroke patients with an incidence of 2-4 times higher than the population and it generally affects the paretic side. Increased falls caused by the motor impairments and osteoporosis are the risk factors for the hip fracture [3-6]. Any types of immobilization results in osteoporosis [7]. Several studies investigating bone metabolism in stroke patients revealed that bone mineral density (BMD) was decreased at the hemiplegic side more than the normal side. Higher motor impairment causes a higher BMD loss and the amount of weight borne on the paretic lower extremity is the determinant of its bone loss [8,9]. While unloading is the main mechanism blamed, hemi osteoporosis was present even if the patients that could be able to walk early after the stroke [3,9-11]. A similar unexplained osteoporosis is seen at the upper extremities of the paraplegic patients which have normal loading and innervation [12]. The hormonal changes, neuropeptides or local factors may have a role in its mechanism but this mystery needs more researches to be solved.

Although the etiology of the osteoporosis in hemiplegic patients is not revealed completely, it can be prevented and treated by bisphosphonates [13,14].

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