



Invited Plenary Abstract

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Epidemiology of fractures – known and unknown

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Which fractures are osteoporotic in nature?

Hip, vertebral and forearm fractures are the classic osteoporotic fractures. However, it is increasing being recognized that many other fractures could be osteoporotic. In the Dubbos Study, fracture of the ankle, rib and humerus were frequent and was found to be associated with low bone mineral density. In Mr and Ms Os(Hong Kong), fractures occurred in many sites and most of these were found to be associated with osteoporosis.

Are fractures in Asian Lower than Caucasians?

The incidence of hip fractures are definitely lower in Asians than Caucasians. According to the Asian Osteoporosis Study, the incidence of hip fracture in developed Asian countries was around 80% of these observed in American Caucasians, while the incidence of hip fracture in developing Asian countries was only 50% of than in America Caucasians. In contrast to hip fracture, the prevalence of vertebral deformity is as high in Asians (14%) as in Caucasians (12%-19%).

Why is hip fracture less frequent in Asians than Caucasians?

Despite the lower incidence of hip fracture in Asians, bone mineral density is around 20% lower in Asian than Caucasians. The reasons why hip fracture is less frequent in Asians is hence unknown. Difference in hip morphometry, tendency to fall and muscle strength are possible explanations.

Are osteoporotic fractures becoming less frequent around the world?

There is some evidence that hip fracture is becoming less frequent in the West. In Ontario, Canada, hip fracture incidence began to decrease in the 20 century, reaching a rate of 33 per 10,000 in 2005. However, in Asia, including Singapore and Hong Kong, the incidence rates of hip fracture has remained static after an exponential increase. These different changes could be due to more comprehensive diagnosis and treatment of osteoporosis in the west.