Arm span, height and forearm bone mineral density in normal young and postmenopausal women

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Abstract

The value of arm span and height measurements in the erect position were evaluated by (1) comparing them in individual young adults and postmenopausal women and (2) comparing them with forearm bone mineral density (BMD) using a Panasonic dual energy X-ray absorptiometry (DXA). The study group consisted of 301 healthy women composed of 165 young adults (20-40 years), 62 postmenopausal women and 74 women whose age was more than 40 and had regularity of menstruation. Arm span and height of the individual young adults and postmenopausal women were not significantly different (p>0.05). It indicated that arm span and height measurements were independent of normal aging. Height loss occurred in some elderly women who had some diseases or conditions which induced short stature. We suggested that arm span can be used to predict height during the younger adult life of elderly women and to predict the current height in patients who had a height loss problem. A simple linear regression equation of height and arm span has already been constructed. During the increase of years since menopause in postmenopausal women, height and arm span measurements were relatively constant, while BMD gradually declined. We also found that the greater the number of years since menopause, the higher the rate of BMD loss (%). Height and arm span had low correlation with BMD. Height or arm span alone can not be used to predict BMD, but may be combined with other risk factors of osteoporosis.

Keywords
Arm Span; Bone Mineral Density; Height

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