ROLE OF BONE DENSITOMETRY IN EARLY DIAGNOSIS OF SENILE OSTEOPOROSIS

THESIS

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INTRODUCTION

Osteoporosis is defined as a "disease characterized by low bone mass leading to enhanced bone fragility, and a consequent increase in fracture risk (Consensus Development Conference, 1991).

Osteoporosis is the most common generalized skeletal disease, the lifetime risk of any fracture of the hip, spine, forearm is about 40% in white women and 13% in white men age 50 years onward (Melton et al., 1992).

The incedence of osteoporotic fracture increase with age specially femoral neck fractures which found to be 1100% higher in age group between 80 and 85 years versus the age group 60 and 65 (Cumming et al., 1986).

Simple bone radiographs are not sufficient to diagnose early bone loss because losses of up to 40% of bone mass may occur before a noticeable change is detected. Noninvasive methods for bone mineral content quantifying are mainly used in patient with those osteopenic condition where there is a quantitative decrease in bone without a qualitative defect.

Hence the techniques are more appropriate in osteoporosis and less useful in conditions such as steomalicia, hyperparathyroidism and renal destrophy (Kimmel, 1984).

Methods of measuring bone mineral density are therefore pertained to identify individuals with reused bone mass and at increased risk of fractures, and current techniques provide accurate and presize B.M.D measurement with low radiation dose. The methods most widely used are single photon absorpitiometry, dual photon absorptiometry, which has been replaced by dual X-ray absorptiometry and quantitative C.T.

The recent techniques of broad band ultrasound attenuation and MR imaging offers potential for investigating both trabeculer bone mass and structure (Adams, 1992).

In this work there is trial to discuss value of bone densitometry in assessment of senile osteoporosis.