INTRODUCTION

Increased bone remodelling is a characteristic feature of the immediate postmenopausal period in most women. Preventive therapy at the time of menopause is considered to be the most effective intervention for osteoporosis. It is important to identify menopausal women at greatest risk of subsequent osteoporotic fracture, given that most preventive therapies are not free of side effects nor acceptable to all women. The risk of vertebral and bone fractures is related to premenopausal mineral density and the rate of bone loss thereafter ***(Ebeling et al., 1996).***

Bone metabolism may be estimated indirectly by determination of bone formation and resorption markers. The introduction of improved biochemical markers of bone turnover has increased the potential to identify those women likely to lose bone and those at greatest risk of subsequent osteoporotic fracture most rapidly in the postmenopausal years ***(Hedstrom, 2000).***

Novel biochemical bone metabolic markers have been identified and investigated in bone disease. One of these markers, is the carboxy –terminal pyridinoline cross-linked telopeptide of type I collagen (ICTP) ***(La-Orchailurkit et al., 2001).***

Organic bone matrix consists mainly of type I collagen. Type I collagen is the most abundant collagen type in the body and the only

collagen type found in bones and tendons. It accounts for more than 90% of the organic matrix of bone ***(Blomqvist et al., 1996).***

During degradation of type I collagen, a small pyridinoline cross linked peptide, called ICTP is liberated from the carboxyterminal telopeptide region ***(Charles et al., 1994).***

This peptide is found in an immunochemically intact form in blood where it seems to be derived from bone resorption ***(La-Orchailurkit et al., 2001).***

Changes in the serum concentration of ICTP are found in metabolic bone diseases where they correlate with the bone resorption rate measured either hsitomorphometrically or by calcium kinetic studies. Serum ICTP also correlates with the urinary excretion of deoxy pyridinoline cross-links, measured by common HPLC methods ***(Akimoto et al., 1996).***