

Levels of CTX1 in Premenopausal Osteoporotic Women Study Conducted in Khyberpuktoonkhwa Province, Pakistan

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Abstract : Objectives: To evaluate the high socio-economic status, urbanization, and decrease ambulation can lead to early osteoporosis in women reporting from Peshawar region. Study Design: Descriptive cross-sectional study was done. Sample size was 100 subjects, using 30% proportion of osteoporosis, 95% confidence level, and 9% margin of error under WHO software for sample size determination. Place and Duration of study: This study was carried out in the tertiary referral health care facilities of Peshawar viz PGMI Hayatabad Medical Complex, Peshawar, Khyber Pakhtunkhwa Province, Pakistan. Ethical approval for the study was taken from the Institutional Ethical Research board (IERD) at Post Graduate Medical Institute, Hayatabad Medical Complex, and Peshawar. The study was done in six months time period. Patients and Methods: Levels of CTX1 as a marker of bone degradation in radiographically assessed perimenopausal women was determined. These females were randomly selected and screened for osteoporosis. Hemoglobin in gm/dl, ESR by Westergren method as millimeter in 1 hour, Serum Ca mg/dl, Serum alkaline Phosphatase international units per liter radiographic grade of osteoporosis according to Singh index as 1-6 and CTX 1 level in pg/ml. Results: High levels of CTX1 was observed in perimenopausal osteoporotic women which were radiographically diagnosed as osteoporotic patients. The High socio-economic class also predispose to osteoporosis. Decrease ambulation another risk factor showed significant association with the increased levels of CTX1. Conclusion: The results of this study propose that minimum ambulation and high socioeconomic class both had significance association with the increase levels of serum CTX1, which in turn will lead to osteoporosis and to its complications.

Keywords : osteoporosis, CTX1, perimenopausal women, Hayatabad Medical Complex, Khyberpuktoonkhwa

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