Preliminary Report

Study of Procollagen Type1 Nitrogenous Propeptides (P1NP) in Reproductive Female

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A study of 109 female volunteers in good health and reproductive life, the mean age was 38.5 years, the volunteers had no intake of any kind of medicine before blood examination.
The mean value of PINP is 44.57 ng/ml, standard deviation = 19.91, standard error = 1.9 with 95% confidence interval = 40.79 to 48.35 ng/ml

The PINP is a bone formation marker which is secreted by osteoblast, the advantage of the present study was helping the evaluation of bone status after bone forming agents therapy. In addition PINP showed the status of bone turnover when compared to bone resorption marker (CTx).

Keywords: PINP, Procollagen type 1 nitrogenous propeptides

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Material and Method

Subject

109 reproductive, healthy females, with a mean age = 38.5. Overnight fasting blood was examined for screening and bone marker. The volunteers did not take any kind of medicine 1 month before the study and, their menstruation was regular.

Osteoblast synthesizes collagen type 1 consisting of 2 alpha 1 chains and one alpha 2 chain. They wind together but at both ends are unwound parts called procollagen type 1 propeptides of which there are two types according to their molecules containing nitrogenous part or carboxyl part of amino acids, procollagen type 1 nitrogenous propeptides (P1NP) and procollagen type 1 carboxyl propeptides (P1CP) respectively (1).

After excretion from the osteoblast, both ends are cleaved by enzyme and released into the circulation. These remnants of collagen are recognized as a bone formation marker. The present study was performed in order to identify the value of P1NP in healthy and reproductive females as a standard for comparison with menopausal women.

Analysis of data was calculated by SPSS program. Descriptive statistics was applied to describe the results of normal value with 95% confidence interval.

Results

The mean value of 109 healthy and reproductive females with a mean age = 38.5 years was 44.57 ng/ml, SD = 19.91, SE = 1.908 and 95% CI = 40.79 to 48.35 (Fig. 1).

Discussion

The benefit of the present study shows the normal value of PINP, formation marker in young reproductive females, with a mean = 44.6 ng/ml which can be compared to menopausal women who lack estrogen and with high resorption marker (CTx) (2). The value of PINP can predict the status of bone formation after bone forming agent therapy when compared to the base line control.
Fig. 1 Distribution of PINP histogram of reproductive female (n=109), mean=44.6 ng/ml with 95%CI=40.78 to 48.35

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References