differentiation. The inhibitory effect of menatetrenone on osteoclast formation is not due to gamma-carboxylation and the side chain of menatetrenone may play an important role in this inhibitory effect.

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SAT0162 CORRELATION BETWEEN BONE MASS INDEX AND BONE MASS DENSITY MEASURED AT A NON-WEIGHT-BEARING SITE: STUDY ON 712 POSTMENOPAUSAL WOMEN

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Background Body weight is highly related to bone mineral density (BMD), regardless of age, menopausal duration, or any other variables. Low body mass index (BMI) constitutes a risk for fragility fractures. Thin postmenopausal women are more at risk of developing non-traumatic fractures.

Fatness is positively associated with BMD, both at weight-bearing and non-weight-bearing sites. Therefore, it is presumable that the both mechanical load, induced by greater body weight, and hormonal factors, through the effects of adipose tissue on levels of circulating estrogens, are responsible for greater skeletal density in obese people.

Objectives The aim of the present study was to demonstrate the correlation between BMI and BMD evaluated at the distal radius. That site has been chosen because it is a non-weight-bearing area and consequently it is not influenced by the mechanical load.

Methods A total of 712 Caucasian menopausal women, aged 41–100 years (mean age 65, mean duration of menopause 17,4 yrs.) was studied. The sample was divided into 4 groups according to BMI (modified WHO classification): underweight (BMI 18.5–24.9, 315 patients, mean age 64,5 yrs., mean duration of menopause 17,2 yrs.), overweight (BMI >25–29.9, 270 patients, mean age 66.1 yrs., mean duration of menopause 18,6 yrs.), obese (BMI >30; 133 patients, mean age 63.8 yrs., mean duration of menopause 15.3 yrs.).

BMD was studied using dual-energy X-ray absorptiometry (HOLOGIC DTX 100). The examinations were performed on the distal radius of the non-dominant forearm. Diagnosis of osteoporosis was made according to the WHO report (T score <-2.5 SD: osteoporosis. T score ≥1 to -2.5 SD: osteopenia. T score 0 to ≥1 SD: normal). The ANOVA procedure and the Chi square test were used for statistical analysis of the results.

Results Results are reported on Table 1.

Abstract SAT0162 Table 1

	Mean BMD* g/cm ²	Osteoporosis**	Osteopenia**	Normal**
Obese	0.415	18.0%	48.9%	33.1%
Overweight	0.389	29.6%	48.9%	21.5%
Normal	0.378	32.1%	49.2%	18.7%

*p < 0.0000 (ANOVA); **p < 0.004 (Chi square).

Conclusion As expected, the mean value of BMD was higher in the obese group (p < 0.000001). The analysis of prevalence of osteoporosis and osteopenia in all the groups studied showed a negative correlation between body size and bone mass loss. In particular it was observed the finding of a progressive reduction of the number of osteoporotic women with the increasing BMI, while the percentage of osteopenic subjects was almost constant (p < 0.004).

The importance of the present study was the demonstration of a strong positive correlation between BMI and BMD at non-weight-bearing site. The findings confirms the protective role of adipose tissue on the bone independently of the influence of the mechanical load.

SAT0163 RISK FACTORS RELATED TO LOW HEEL BONE MINERAL DENSITY IN POSTMENOPAUSAL WOMEN

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Background

Objectives To analyse the relationship between risk factors of osteoporosis (OP) and heel bone mineral density (BMD) in postmenopausal women in a Mediterranean area.

Methods 170 postmenopausal women were consecutively selected for an osteoporosis screening. In all women we collected the following data: age, BMI (body mass index), years since menopause, pregnancy, breast-feeding, maternal hip fracture; use of coffee, alcohol and tobacco; daily calcium intake, sun exposure and previous fractures (distal forearm, vertebral, hip and other non-traumatic fractures). A measurement of heel BMD was done in all women with PIXI bone densitometer (Lunar). Dorso-lumbar x-rays were reviewed in all patients. Chi-square, Student or Fisher tests were used for the statistical analysis.

Results Significant differences between patients with normal values of BMD and OP were detected only for the following risk factors:

Conclusion Previous fractures, mother's hip fracture, low BMI, age and years since menopause are factors associated with low heel BMD. So, PIXI is a good method for OP screening in postmenopausal women.

SAT0164 TWO YEAR RESULTS OF ONCE-WEEKLY ADMINISTRATION OF ALENDRONATE 70 MG FOR THE TREATMENT OF POSTMENOPAUSAL OSTEOPOROSIS

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Background The therapeutic equivalence of alendronate (ALN) 70 mg once weekly (OW) (provided by Merck and Co., Inc., Whitehouse Station, NJ, USA), ALN 35 mg twice weekly (TW), and ALN 10 mg once daily (OD) in the treatment of postmenopausal osteoporosis for 1 year has been reported previously.¹ We