عنوان الوثيقة: فولات، فيتامين ب 12 والتنوع الوراثي لأنزيم هوموستيستين ميتايل الفولات الرباعي روكتيز وعلاقة ذلك بالكثافة الكتلية العظمية في النساء السعوديات: دراسة تطلعية.

الموضوع: التغذية السريرية وأمراض الغدد الصماء.

لغة الوثيقة: الإنجليزية.

المستخلص:

Folate, Vitamin B12, Homocysteine Methylenetetrahydrofolate Reductase C667T Polymorphism to Bone Mineral Density in Saudi Postmenopausal Women

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Objectives: To assess the relationship between plasma folate, vitamin B12 and total homocysteine (t-Hcy), together with methylenetetrahydrofolate reductase (MTHFR) C667Y polymorphism with bone mineral density (BMD) in Saudi postmenopausal women.

Subjects and Methods: A total of 576 Saudi postmenopausal women (50-67 years) who were randomly selected and living in Jeddah area were studied. Restriction fragment length polymorphism was used for genotyping of MTHFR polymorphism. Plasma levels of folate vitamin B12 and t-Hcy were measured together with BMD of the spine (L1-L4) and hip (determined by DXA technique) and other clinical characteristics among MTHFR genotypes (CC, CT and TT) were also examined. Pearson's correlations were used to assess the correlation between BMD values with variables including MTHFR genotypes, vitamin B12, log plasma t-Hcy, age, years since menopause, BMI and PTH. Women were classified into three groups according to CC, CCT and TT genotypes. Chi-square statistics were applied. ANOVA was used for comparison of variables among the MTHFR genotypes.

Results: BMD of the spine (L1-L4) ($r = - 0.37$, $P < 0.001$) and that of hip ($r = 0.35$, $P < 0.001$) exhibited significant negative correlations with log plasma tHcy and positive correlations with plasma folate [$r = 0.26$, $P < 0.001$ for spine (L1-L4); $r = 0.29$, $P < 0.001$ for hip], with no evident correlations between MTHFR polymorphism and BMD values studied. Adjustment for folate and vitamin B12 removed the relationship. Age (7.3%) and plasma folate18.8%) contributed significantly to the prediction of variation in plasma tHcy. Plasma folate contributed significantly to the variation in BMD of the spine (L1-L4) and that of the hip.

Conclusions: Hyperhomocysteinemia related to folate deficiency but without significant contribution by MTHFR polymorphism, independently was associated with decreased BMD values which may contribute to the pathogenesis of osteoporosis in Saudi postmenopausal women

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