F024

THE EFFECTS OF EXOGENOUS TESTOSTERONE ON LIPID METABOLISM & INSULIN RESISTANCE IN POSTMENOPAUSAL WOMEN.

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The addition of an androgen to oestrogen replacement therapy may modify the cardiovascular protective effects of oestrogen. We have studied this prospectively in hysterectomised postmenopausal women by measuring changes in body mass index (BMI), lipid profiles and insulin resistance in twenty women receiving a 50mg(E50) oestradiol implant and after 4 months the combination of 50mg oestradiol and 100mg testosterone(T100) implants. In addition we compared these indices in twenty women who had been on E50 & T100 for 5 or more years with matched controls who have been on E50 only for a similar period.
Fasting bloods were taken at baseline and 8 weekly intervals in order to determine oestradiol, testosterone, Free androgen index(FAI), insulin resistance (as determined by fasting glucose x insulin/25), cholesterol, triglycerides, HDLc, LDL, ApoA, ApoB and Lp(a) levels. There were no significant changes in BMI over the 8 months. Oestradiol levels increased significantly from 56pmol/l at baseline to 347pmol/l ($p<0.05$) and then to 512pmol/l by the last visit. The FAI dropped from 1.8 to 1.6 on E50 and then increased to 9.5 on E50+T100 ($p<0.05$).

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The cholesterol, LDL and ApoB levels were significantly lower from baseline at each 8 weekly interval ($p<0.05$). There were no other significant changes and no evidence of a differential response to the increase in FAI after 4 months. There were no significant differences between the two groups on either E50 or E50+T100 long-term. The findings suggest that parenteral testosterone does not attenuate the favourable changes induced by oestrogen on carbohydrate & lipid metabolism.

F025

THE PREVALENCE OF OSTEOPENIA AND OSTEOPOROSIS ACCORDING TO WHO CRITERIA, IN WOMEN IN THEIR SEVENTH DECADE AND THE SENSITIVITY AND SPECIFICITY OF BONE DENSITOMETRY REFERRAL CRITERIA.

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All females in the age range 60-69 years inclusive, registered with 3 large General Practices in an English city, were invited to attend for bone densitometry of hip and spine using DEXA, to determine the prevalence of osteopenia and osteoporosis. An extensive medical history was taken reviewing risk factors for osteoporosis. Of the 1158 women invited to attend, 813 (70.4%) had a complete set of densitometry and medical records. Applying WHO criteria, 216 (27%) had Normal bone density at hip and spine, 401 (49%) had osteopenia and 196 (24%) had Osteoporosis at either site. The Centre for Metabolic Bone Disease operates a contract with the local Health Authority to provide a bone densitometry service based on agreed referral criteria. 157 of those with osteopenia and 100 of those with osteoporosis conformed to at least one referral criteria, thus resulting in a sensitivity for osteopenia and osteoporosis of 39% and 51% respectively. Of the 216 women who were found to have normal bone mineral density at hip and spine, 64 met at least one criterion, a specificity of 70%. The magnitude of the problem and the poor sensitivity to detect the disease using clinical criteria suggest the need for a more stringent process of patient selection for bone densitometry.

F026

THE RELATIVE CONTRIBUTIONS OF AGING AND MENOPAUSE IN DETERMINING INVOLUTIONAL OSTEOPENIA

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Bone mineral density (BMD) was measured in normal postmenopausal women (PMW) by dual energy x-ray absorptiometry (DEXA) either at the lumbar spine (n=2190) or femur (n=680). Vertebral BMD decreased with age ($r=0.25$), but the relation with years since menopause (YSM) was more potent ($r=0.36$). BMD shows a rapid and highly significant ($P<0.0001$) decrease first 5 YSM. The Vertebral BMD values were regressed on the logarithmic transformation of YSM ($r=0.44$, $p<0.0001$). The age-related component account for a linear 0.4% decrease per year, starting at the age of 55. In 139 pairs of PMW up to and over 60 yrs of age (58+1.9, and 62.5+1.5 yrs, respectively), matched for YSM (10.3+2.3), no significant differences in height, weight, or BMI were found. The lumbar BMD was significantly ($p<0.001$) lower in the younger than in older PMW. BMDs decreased with age in all femoral regions, but the relations with YSM were more potent. In 64 pairs of PMW up to and over 60 yrs of age (56.8 ± 2.6, and 64.8 ± 2.9 yrs, respectively), matched for YSM (10.3 ± 2.3 yrs), no significant differences in height, weight or BMI were found. The femur BMDs were significantly ($p<0.001$) lower in the younger than in older women. Thus, besides the BMI, the menopausal component of bone loss and a younger age at the menopause represent the major determinants of the involutional lumbar and femoral osteopenia.