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Impact of Hormonal Changes After Natural Menopause on the Urodynamic Studies in Egyptian Women.

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To study the urodynamic changes in the lower urinary tract after the natural menopause.

The study group included twenty post-menopausal women with no history of gynecological or urological operations, no hormonal replacement therapy was received, they were divided into two subgroups of ten women each 1st 1-9 years after menopause, 2nd 10 years or more. Another ten healthy non-pregnant women in their reproductive age were studied as a control group.

History, clinical examination, and routine lab. investigations were done for all cases. Serum FSH and  $E_2$  were estimated for all cases (control group in 3rd menstrual day). The urodynamic studies included (1) Cystometry (2) Uroflowmetry (3) Urethral pressure profile.

Urodynamic studies showed that residual urine, bladder capacity at first and maximum desire, uninhibited detrusor contractions and functional urethral length were significantly changed in postmenopausal women compared to fertile women. There was negative correlation between serum  $E_2$  and bladder capacity at first and maximum desire in women with more than ten years after natural menopause. A positive correlation between serum  $E_2$  and pressure at least flow was found in the same group of women.

Urodynamics may change after natural menopause even in normal women. Serum  $E_2$  has its impact on bladder sensation at first and maximum capacity. Detrusor instability is coupled to voiding contractions which leads to increase in bladder capacity and/or elevated residual urine in absence of any infravesical obstruction.

## I S-114

**Estrogen - induced increases in coronary blood flow can be antagonized by inhibition of NO synthesis**

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*Objective:* Estrogen receptors have been found in coronary arterial endothelial and vascular smooth muscle cells. Therefore the present study was designed to determine if estradiol-17 $\beta$  and conjugated estrogens (CE) can increase coronary blood flow and if so whether the changes are mediated by nitric oxide. *Study design:* Five oophorectomized non-pregnant sheep were chronically instrumented to measure blood pressure, heart rate, cardiac output, left circumflex coronary blood flow and central venous pressure. Animals received estradiol-17 $\beta$  or conjugated estrogens (1.0  $\mu$ g/kg) and cardiovascular responses were followed for 135 min. *Results:* Estradiol-17 $\beta$  (1.0  $\mu$ g/kg) increased left circumflex (coronary) blood flow 28 $\pm$ 3% cardiac output 15 $\pm$ 1% and heart rate by 13 $\pm$ 3%. Coronary vascular resistance decreased 23 $\pm$ 5%, systemic vascular resistance decreased by 12 $\pm$ 2% while blood pressure did not change significantly. CE showed similar reactions. Administration of the nitric oxide synthetase inhibitor L-nitroarginine methylester (L-NAME) had no effect on basal coronary blood flow but completely reversed estradiol-17 $\beta$  induced increases in coronary blood flow. *Conclusion:* These results demonstrate that estrogen increases coronary blood flow in the non-pregnant sheep and that L-NAME, an inhibitor of nitric oxide, is able to reverse the estrogen induced flow changes.