

International Meeting
ESTROGENS 2001

May 21-22, 2001

Accademia Militari, Modena (Italy)

ESTROGEN RECEPTORS AND ANDROGENS REGULATE EXPRESSION AND FUNCTIONAL ACTIVITY OF OXYTOCIN RECEPTOR IN EPIDIDYMITIS

ESTROGENS BUT NOT ANDROGENS REGULATE EXPRESSION AND FUNCTIONAL ACTIVITY OF OXYTOCIN RECEPTOR IN EPIDIDYMITIS

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Sperm progression is regulated by androgenic and estrogenic hormones secreted by Leydig and Sertoli cells, respectively.

Recent studies have shown that androgenic and estrogenic hormones also regulate the expression and functional activity of the oxytocin receptor (OTR) in the epididymis.

OTR expression and functional activity were investigated in the epididymis of rats treated with androgenic and estrogenic hormones.

Androgenic hormones increased OTR expression and functional activity, while estrogenic hormones decreased OTR expression and functional activity.

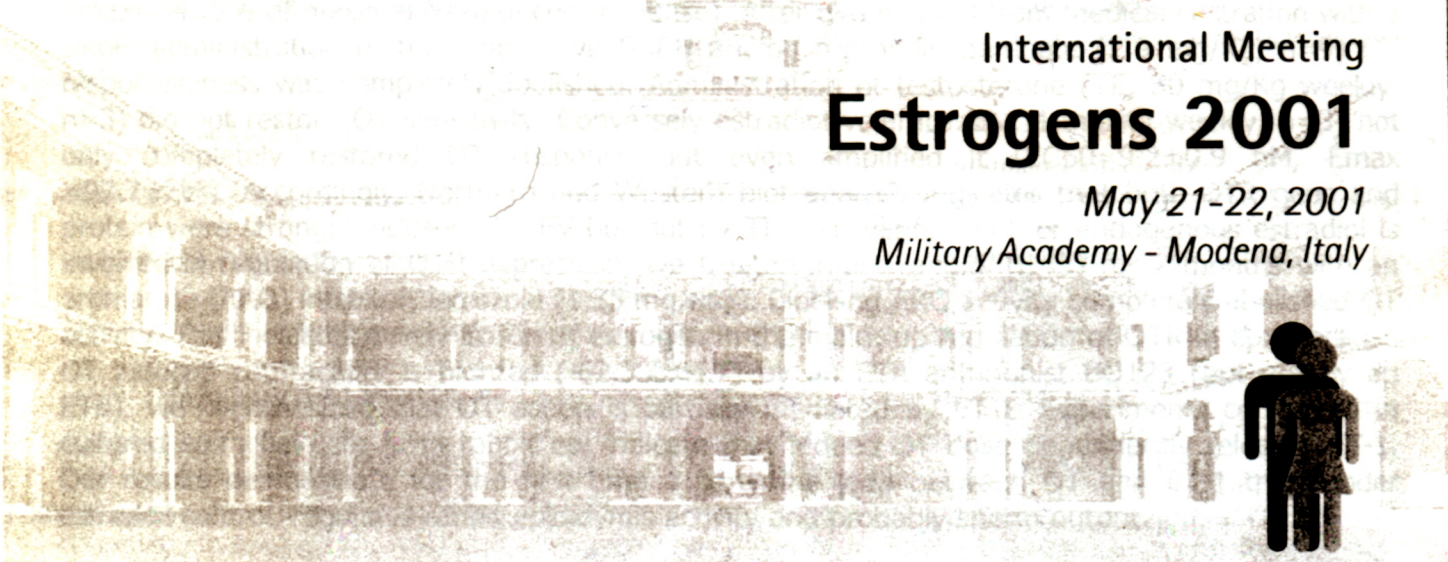
These findings suggest that androgenic and estrogenic hormones regulate OTR expression and functional activity in the epididymis.

Gastroenterology Unit - Endocrinology Unit
University of Modena and Reggio Emilia

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STUDIES ON THE FUNCTIONS OF ER-BETA IN THE PROSTATE

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The finding of the second estrogen receptor (ER), gives us a new insight into understanding estrogen effects that were previously thought to be mediated in a cell-specific manner through ER. In prostate, both ER α and ER β exist with ER β as the major isoform. ER β is highly abundant in the human prostate. ER β has been found in normal, benign prostatic hyperplasia (BPH) and metastatic

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due to a decline in the polyamine content.

SEX STEROIDS IN AGEING MALE

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Objective: to establish the relationship between ageing and plasma sex hormones levels in males.

Methods: we measured plasma total testosterone and estradiol by radio-immunoassay in 41 healthy males aged 60-101 years as compared with 113 control females aged 50-103 years. All subjects were self-sufficient and not affected by any serious systemic or psychiatric disorder; they did not take any drug affecting plasma sex hormones concentrations.

Background: ageing is accompanied by a progressive decline of Leydig cell function in healthy men, resulting in a decrease of serum testosterone, whereas relatively little is known about the changes that occur in serum estradiol levels with advancing age.

Results: in accordance with previous observations, we confirmed that testosterone is inversely related to age, showing a significant decrease in plasma concentrations with advancing age ($r = -0,36$; $r^2 = 0,136$; $p = 0,01$). Estradiol showed an inverse correlation with age ($r = -0,277$; $r^2 = 0,077$; $p = 0,04$). In males aged 60-79 years (25 subjects) testosterone levels ($522,4 \pm 94,5$ ng/dL) did not significantly differ from that of males aged ≥ 80 years (16 subjects) ($425,2 \pm 131,1$ ng/dL). Estradiol showed no difference between males aged 60-79 years ($49,8 \pm 13$ pg/mL) and males aged ≥ 80 years ($38,3 \pm 19,2$ pg/mL).

Conclusions: the data obtained by this study confirm the present literature about the values of total testosterone in older males.

Furthermore, the study adds some data about plasma estradiol levels: both ageing men and centenarians show significantly higher plasma estradiol concentrations than the control group females ($45,3 \pm 16,5$ pg/mL vs $18,8 \pm 6,9$ pg/mL respectively).

AROMATASE OVEREXPRESSION ENHANCES THE STIMULATORY EFFECTS OF ANDROGENS ON MCF7 BREAST CANCER CELLS

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In women after menopause aromatization of adrenal androgens represents the main source of estrogens, which may promote the development of hormone-dependent breast tumor. Several studies have attempted to determine the cell type within carcinomas that is responsible for "in situ" estrogen biosynthesis and whether the amount produced may sustain relevant biological effects.

In this work we show P450arom mRNA and protein expression together with immunocytochemical localization of aromatase in the epithelial MCF7 breast cancer cell line. Moreover, we demonstrate that the enhanced aromatization of dehydroepiandrosterone in aromatase transfected MCF7 cells

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