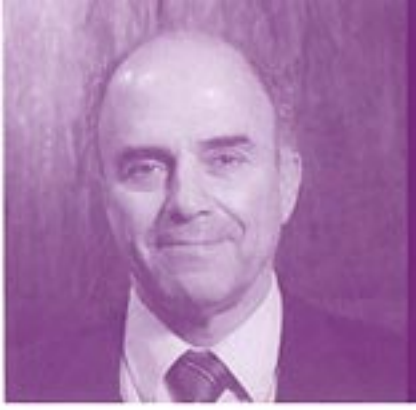

I.S.G.E.
International Society
of Gynecological Endocrinology

Andrea Genazzani

POSTSYMPOSIUM
OGASH IAMSS AWARD 2006

ASSOCIATED AND SPONSORED HOSPITALS

Andrea Genazzani graduated in medicine from the University of Siena, Italy, in 1966. He continued his training with a residency in obstetrics and gynecology at the same university, before completing a further residency in endocrinology and metabolism at the University of Florence, Italy. After receiving his PhD from the Division de Biochimie Clinique, Clinique Médicale at Lausanne University, Switzerland, Professor Genazzani held faculty positions at the Universities of Cagliari, Siena, and Modena, Italy. Since 1994, he has been Director of the Department of Obstetrics and Gynecology at the University of Pisa, Italy.

He is a Past President of the International Menopause Society and is currently President of both the International Society of Gynecological Endocrinology and the European Society for Gynecologic and Obstetric Investigation. He is also a member of both the International Academy of Human Reproduction and the Accademia degli Illuminati and a Fellow ad eundem of the Royal College of Obstetricians and Gynecologists. Professor Genazzani's primary research interests lie in the field of reproductive neuroendocrinology, infertility, and menopause on which he has published 537 peer-reviewed papers. He is Editor-in-Chief of *Gynecological Endocrinology*, Editor of *Maturitas*, and a referee for a number of learned journals.

DROSPIRENONE AND ITS ANTI-ALDOSTERONE PROPERTIES

Drospirenone (DRSP) is a novel progestogen, derived from 17β–spirolactone, which demonstrates a pharmacologic profile very similar to that of endogenous progesterone. In contrast with other available progesterones, DRSP exhibits aldosterone-receptor antagonism owing to its affinity for the mineralocorticoid receptor. DRSP thus acts on the renin–angiotensin–aldosterone system (RAAS). This action also has potentially beneficial effects on the heart and vasculature.

Estrogen acts on the RAAS to stimulate synthesis of angiotensinogen, which increases aldosterone levels and promotes sodium and water retention. This can lead to the increased weight gain and blood pressure associated with the perimenstrual transition and with hormone replacement therapy. Unlike other progestins, the potent antimineralocorticoid activity of DRSP has been shown to counter this salt and water retention, thus contributing to the maintenance of a stable body weight and potential blood pressure benefits.

DRSP shows no evidence of any androgenic, estrogenic or glucocorticoid action, which may provide further metabolic advantages and clinical benefits. Specifically, some trials have shown that a progesterone with aldosterone receptor antagonism (PARA) will affect cardiovascular parameters, including the development of atherosclerosis. Recent studies have compared the effects of natural progesterone, medroxyprogesterone acetate (MPA) and DRSP on the synthesis of nitric oxide and expression of leukocyte adhesion molecules in human endothelial cells.

Significant differences in the signal transduction pathways recruited by specific progesterones in endothelial cells have been shown, suggesting that certain progesterones have substantially different effects on human vascular cells, which may have clinical implications for vascular function and disease. Furthermore, due to its nitric oxide enhancing action, and its interference with mineralocorticoid receptor signaling, DRSP may be a better choice than MPA when considering cardiovascular parameters.