

# ENDO 2005: New treatments may enhance quality of life for women

Potential therapies may preserve fertility after leukemia treatment, reduce growth of breast cancer and more.

A variety of treatments that enhance the quality of life for women may soon be available, according to new research presented at the 87th Annual Meeting of The Endocrine Society.

Four new studies discussed potential therapies for enhancing the chances for young women to remain fertile after aggressive therapy for various types of leukemia, reducing the aggressive growth of breast cancer and enhancing the quality of life in middle-aged and postmenopausal women.

## Ovary protection

Girls who had received their first period and were receiving toxic therapies for certain diseases, including leukemia and Hodgkins disease, were treated successfully for protection of the ovaries during treatments, according to recent research.

The study, conducted by Marta Snajderova, MD, PhD, at the University Hospital Motol in Prague, was to



review clinical results in ovary protection by combining the gonadotropin-releasing hormone (GnRH) agonist and GnRH antagonist before and during high-dose toxic therapy.

Using the protocol in the study, a rapid cell desensitization could be achieved in all patients within 96 hours, allowing start of cancer treatment without any delay. More than two-thirds of girls resumed their periods after the end of cancer treatment. All menstruating girls in the study now have regular menstrual cycles 28 to 30 days long.

"The combination of GnRH-agonist and GnRH-antagonist makes it possible to achieve a rapid, reliable and cost-effective suppression of pituitary-gonadal axis, protecting the ovaries during the treatment," Snajderova said.

"If these preliminary data are consistent in a larger group of patients, the GnRH agonist and GnRH antagonist cotreatment should be considered in every young fertile woman receiving cytotoxic treatment for further fertility preservation."

## Effects of hormones on breast cancer

Evidence suggests that estrogen and inflammatory mediators play important

roles in the growth and progression of breast cancer. Activity of aromatase, an enzyme that converts androgens to estrogens, can therefore result in high local levels of estrogen production that stimulate tumor growth.

Immunoreactivity for aromatase in human breast tumors is highly correlated with that of Cox-2, the rate-determining enzyme in prostanoic biosynthesis, according to research conducted by Daniel Hardy, MD, UT Southwestern Medical Center in Dallas.

"Nonantibody proteins that act as intercellular mediators contribute to the increase in expression in breast cancer," Hardy said. "And, progesterone receptors play a dominant protective role in breast cancer cells by antagonizing activation of Cox-2, resulting in decreased expression."

## Soy treatments for postmenopausal women

A study by Kendall Dupree, MD, Johns Hopkins University, looked into the effects of soy on quality of life in postmenopausal women. Complementary and alternative therapies are being used frequently in the United States, and studies of postmenopausal women indicate that estrogen replacement improves physical, psychosocial and vascular symptoms.

Because of the reduction in use of hormone replacement therapy, many women are choosing soy as an alternative.

Soy, a phytoestrogen, contains isoflavonoids called genistein and daidzein. These isoflavonoids are chemically similar to estrogen and are capable of binding to estrogen receptors and exerting an excitatory or inhibitory effect.

Dupree's study hoped to demonstrate that when administered in adequate doses to postmenopausal women, isoflavones result in improved menopausal symptoms and related quality of life.

The study looked at data on 35 postmenopausal women not on hormone replacement therapy for at least six months prior to beginning the study. Participants completed a three-month clinical trial and were randomized to the active product (Revival, Physicians Laboratories) containing 160 mg of total isoflavones vs. a placebo. Each participant completed the Menopause-Specific Quality of Life Questionnaire (MENQOL) at baseline, six weeks and three months.

Researchers found that women taking the active compound experienced significant improvement in their vasomotor symptoms, psychosocial symptoms and

physical function by 36%, 40% and 30%, respectively, compared to placebo.

"We conclude that postmenopausal women taking isoflavones with high concentrations of genistein experience improvement in their menopausal symptoms and therefore have an improved quality-of-life, as reflected by the self-administered MENQOL questionnaire," Dupree said.

## Androgens during menopause

Jiangang Chen, PhD, University of California at Davis, and colleagues studied androgen replacement therapy during menopausal transition through a newly developed cell-based androgen bioassay in serum sampled from 100 middle-aged women (42 to 58 years old) from SWAN (Study of Women's Health Across the Nation).

Circulating androgens are known to improve quality of life regarding meaningful, intimate sexual relationships. To date, the understanding of the importance of naturally occurring androgens and the benefits and risks of androgen replacement therapy in women during menopause is incomplete, the researchers said.

This study investigated the relationship of circulating testosterone measured by immunoassay to the bioactivity of androgens measured by the new bioassay. The results supported the concept that free or bioavailable androgens are increased above what is predicted by free testosterone in women with lower levels of sex hormone binding globulin (SHBG). Therefore, a direct measure of bioactive androgens may provide a different and possibly superior explanation for some decreases in SHBG.

The findings also suggested the importance of adrenal steroid secretion during menopause, which may explain some differences in menopausal symptoms and health outcomes among middle-aged women.

## Growth hormones in postmenopausal women

A study led by Arthur Weltman, PhD, and colleagues at the University of Virginia and Johannes Veldhuis, MD, Mayo School of Graduate Medical Education, found that administration of the growth hormone recombinant human GHRH-1,44-amide (GHRH), taken for three months, can enhance the quality of life in postmenopausal women.

Earlier studies have indicated that twice-daily subcutaneous administration of a high dose of GHRH taken for 90 days can alter body composition in healthy older men. Weltman and Veldhuis set out to establish whether this was also true in postmenopausal

women. Ten postmenopausal volunteers underwent a baseline study and then received 1 mg of GHRH twice daily for three months.

"At the conclusion of the study, there were no systemic adverse events, although most subjects experienced local skin reactivity at the dose of 1 mg injected subcutaneously twice per day," they said. "A three-month regimen of GHRH supplementation in postmenopausal women can stimulate GH and IGF-I production, reduce abdominal visceral fat and improve selected measures of physical performance," Weltman concluded.

## Growth hormone treatments for arteries

New research has indicated that growth hormone replacement is effective for reducing carotid intima-media thickness in healthy adults.

Researchers at the College of Medicine, Kyunghee University in Seoul believe that the elderly are in a functionally deficient growth hormone state due to endothelial dysfunction and vascular disease as well as declining secretion of growth hormone by 14.4% per decade of life.

Using Doppler ultrasonography, 90 healthy elderly patients and six growth hormone deficient patients were injected six times per week for 52 weeks with a dose of recombinant human growth hormone.

"Human growth hormone treatment proved effective in reducing CIMT in the adults we studied," said Suk Chon, MD, and Sung-Woon Kim, MD, of Kyunghee University.

Norwegian scientists have new research suggesting that growth hormone replacement has a salient impact on the various cardiovascular risks associated with growth hormone deficiency.

Patients with growth hormone deficiency are at increased risk of death and often display a cluster of vascular risk factors including: visceral fat deposits, lipoprotein disturbances, endothelial dysfunction, and insulin resistance, as well as increased carotid intima-media thickness.

A team at The National Hospital in Oslo studied 55 patients - at a mean age of 49 - with previously untreated adult-onset growth hormone deficiency. They were enrolled in a placebo-controlled crossover study where growth hormone therapy and a placebo were administered for nine months, each separated by a four-month wash-out period.

"Replacement proved especially beneficial in treating at-risk growth hormone deficient patients who had never been treated this way in the past. The treatment proved particularly favorable in achieving significant reductions in atherogenic lipoprotein and CRP concentrations," said Jens Bollerslev, MD, of The National Hospital. **ET**