

## Long-Term Metformin Curbs Metabolic Syndrome in PCOS

BY DIANA MAHONEY  
New England Bureau

BOSTON — Treatment with metformin significantly improves body mass index and other metabolic parameters in women with polycystic ovary syndrome and significantly decreases the prevalence of metabolic syndrome in this population, a retrospective study has shown.

The findings confirm the utility of metformin, coupled with diet and exercise, as a primary therapy for minimizing the long-term risks of developing metabolic syndrome-associated cardiovascular disease and diabetes in women with the hormonal disorder, Kai I. Cheang, Pharm.D., said at the Fifth Annual World Congress on the Insulin Resistance Syndrome.

To date, short-term studies have demonstrated beneficial metabolic effects associated with metformin in women with polycystic ovary syndrome (PCOS), but long-term data have been lacking, according to Dr. Cheang, of Virginia Commonwealth University, Richmond.

To assess the impact of long-term metformin use, Dr. Cheang and colleagues reviewed the charts of consecutive PCOS patients treated at the university-affiliated clinic from 2000 to 2005. Patients with more than 6 months of treatment with metformin were included in the final analysis if baseline and follow-up assessments of metabolic syndrome parameters were available. Those patients with diabetes at baseline and those taking other medications that would affect

metabolic parameters, such as thiazolidinediones, weight-loss agents, antihypertensives, lipid-lowering agents, or antidiabetic agents, were excluded.

Of the nearly 250 PCOS patients treated with metformin during the study period, 71 met the inclusion criteria; their mean age was 31.2 years. For the purposes of the investigation, metabolic syndrome was defined by National Cholesterol Education Program Adult Treatment Panel III (ATP-III) criteria, with the exception of waist circumference; body mass index (BMI) was substituted for that criterion.

"This is because waist circumference was not available for most of the patients," Dr. Cheang noted. "Based on correlation between BMI and waist circumference of local PCOS women who entered into our clinical studies, we determined the BMI cut-off value corresponding to a waist circumference of 88 cm was 32 kg/m<sup>2</sup>," she reported.

The average period from initiation of metformin therapy to the most recent assessment for the study population was 31 months. The data for those patients who began lipid-lowering or antihypertensive therapy during follow-up were analyzed up until the beginning of such therapy, according to Dr. Cheang.

The investigators assessed baseline and follow-up metabolic syndrome parameters using a two-sided student's paired t test and observed that, compared with baseline, follow-up values for BMI, diastolic blood pressure, and high-density lipoprotein were significantly

improved with metformin therapy, Dr. Cheang reported.

Additionally, metformin therapy significantly decreased the overall prevalence of metabolic syndrome from 31% at baseline to 14% following 31 months of treatment. Observed improvements in systolic blood pressure, triglycerides, and fasting glucose measures did not reach statistical significance.

The findings were limited by the study's retrospective design, Dr. Cheang said. "As information was not being collected specifically for the study, certain data [were] not available for all patients." Additionally, the time between patient visits was inconsistent, and there is a possibility of selection bias because the clinic from which the patient pool was collected specializes in PCOS care, she said.

According to study coauthor Dr. John E. Nestler, chair of the university's division of endocrinology and metabolism, previous studies have shown that treatment with metformin, coupled with diet and exercise, improves ovulation and lowers androgens in PCOS women and possibly prevents or retards progression to glucose intolerance. With these new data, "[metformin treatment] also appears to ameliorate several components of the metabolic syndrome," he said in an interview.

The clinical significance of these findings is substantial, given the extremely high risk for the metabolic disorder in PCOS, he added.

None of the investigators reported conflicts of interest relative to this study. ■

## Menopause Not at Fault In Hyperparathyroidism

BY KATE JOHNSON  
Montreal Bureau

MONTREAL — The higher incidence of primary hyperparathyroidism in women, compared with men, appears to be unrelated to the onset of menopause, according to a study of more than 11,000 patients who were surgically treated for the condition.

Previous studies have reported a female-to-male ratio ranging from 3:1 to 5:1 for the condition, and the disproportionate number of women, particularly those over the age of 50, "has been attributed, at least in part, to changes in estrogen and other hormones that occur at the onset of menopause," said Dr. Barbra Miller, who presented results of a new analysis at a meeting sponsored by the International Society of Surgery.

Dr. Miller, of the University of Michigan Health System in Ann Arbor, said her analysis shows a gradual increase in the female-to-male ratio starting around the age of 26 years and plateauing around the age of 50 years. "We saw no significant change in ratio after the age of 50. This tells us that if hormonal changes were responsible for an increase in females' having primary hyperparathyroidism, we should see a divergence around the age of 50, and instead we see a plateau where the ratio stabilizes," she said.

The study analyzed 10,190 patients (74% female) from the Nationwide Inpatient Sample (a 20% random sample of all hospital discharges containing multiple data points between 1995 and 1999) and 1,066 patients (74% female) from the University of Michigan endocrine surgery database (1999-2005).

**'This study sheds new light on ... primary hyperparathyroidism, and should stimulate new hypotheses regarding the female-to-male ratio.'**

"Since there is no national database that accurately reflects the incidence of primary hyperparathyroidism in the United States, we used surgically treated hyperparathyroidism as a surrogate marker for the condition," said Dr. Miller, acknowledging that this was one of the study's limitations, along with the fact that the analysis did not capture patients treated nonsurgically.

Both data sets showed an overall female-to-male incidence ratio of 2.8:1, with the ratio beginning a slow divergence at 1.6:1 around the age of 26 years, and continuing until it reached 3:1 at around age 50 years, she said.

The peak incidence for both genders occurred between the ages of 56 and 60 years, reaching 13% among women and 12.2% among men.

"This study sheds new light on the age and sex distribution of primary hyperparathyroidism, and should stimulate new hypotheses regarding the female-to-male ratio," concluded Dr. Miller. ■

## Perceptions, Practices Vary on Urinary Incontinence Screening

BY DAMIAN McNAMARA  
Miami Bureau

HOLLYWOOD, FLA. — Although most primary care physicians recognize the importance of diagnosis and treatment of urinary incontinence, routine screening is not always done, according to survey results presented at the annual meeting of the American Urogynecologic Society.

Although "98% of primary care physicians consider screening somewhat or very important, only 60% screen their patients all [or most] of the time," Dr. Gunhilde M. Buchsbaum said.

Dr. Buchsbaum and her associates mailed a survey to 1,466 primary care physicians practicing in Monroe County, New York state, to determine perceptions and practices regarding urinary incontinence screening. Of the 554 responses,

43% were from internists, 28% from family physicians, 23% from obstetricians and gynecologists, and 6% from geriatricians. The majority of the respondents (65%) were 35-54 years old; 61% were men, and 83% were white. A total of 58% were in private practice.

"We asked about their overall perception of the importance of urinary incontinence screening," said Dr. Buchsbaum, director of urogynecology and reconstructive pelvic surgery at the University of Rochester (N.Y.) Medical Center.

A total of 42% felt that such screening was "very important," and another 56% replied it was "somewhat important." Broken down by specialty, the following perceived screening as "very important": 63% of geriatricians, 58% of ob.gyns., 43% of internists, and 30% of family physicians.

The researchers asked how routinely

these primary care physicians screen for urinary incontinence. A total of 18% replied "always," 42% said "most of the time," 26% replied "occasionally," and 14% indicated they "rarely or never" screen their patients.

The propensity to screen varied by specialty as well, with ob.gyns. and geriatricians more likely to report screening all or most of the time, compared with internists and family physicians.

Among physicians not routinely screening, time constraints were cited by 38% as the primary reason. Another 27% cited reimbursement concerns, 23% pointed to a lack of support staff, and 12% indicated they would not know what to do about a positive result, Dr. Buchsbaum said.

Physician comfort with diagnosis of urinary incontinence and use of conservative management were associated with higher

screening rates, she said. Ob.gyns. and geriatricians more often said they were "very comfortable" or "somewhat comfortable" with diagnosis, compared with internists and family physicians.

Physicians were asked about additional education regarding urinary incontinence. Overall, 75% indicated they wanted to learn more, particularly those younger than 35 years and those who had been in practice for less than 10 years. "Although many are interested in learning more about urinary incontinence, only 35% feel it [screening] will alter their practice," Dr. Buchsbaum said.

Based on these findings, the researchers suggested that continuing medical education programs on urinary incontinence for primary care physicians be targeted in particular at younger and less-experienced physicians. ■