

# Gestational Hypertension Tied to Later Heart Risk

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VIENNA — Both increasing severity and recurrence of gestational hypertension increase a woman's chances of developing ischemic heart disease later in life, Dr. Anna-Karin Wikström said at the 14th World Congress of the International Society for the Study of Hypertension in Pregnancy.

Long-term measures to prevent hypertension should be undertaken in women who experience severe or recurrent hypertension during pregnancy, said Dr. Wikström of Uppsala University, Stockholm.

**Women who have severe or recurrent hypertension in pregnancy should undertake long-term measures to prevent hypertension.**

Data from three Swedish medical databases were analyzed for more than 400,000 women with first births since 1973 and for more than 200,000 who gave birth to two infants between 1973 and 1982. Only singleton births were included.

Women with chronic hypertension and/or diabetes were excluded from the study.

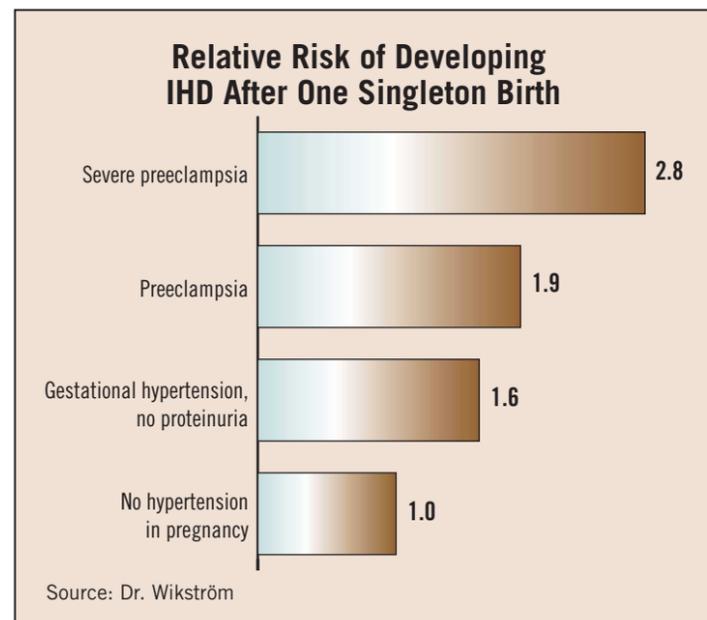
After adjustment for maternal age, socioeconomic status, and hospital category, the relative risk of developing ischemic heart disease (IHD) after 19-28 years' follow-up was 1.6

for the women who had gestational hypertension without proteinuria in their first pregnancies, compared with those who did not have hypertension in their

first pregnancies. Among women with preeclampsia the relative risk was 1.9, and among those with severe preeclampsia it was 2.8. All the between-group differences were statistically significant, she said.

In the group with two children, the women who had any degree of hypertensive disease during their first pregnancy but not during the second had a 1.9 relative risk of IHD, compared with those who did not have hypertension in either pregnancy. The relative risk of IHD for women with hypertension in the second pregnancy but not the first was 2.4, and for those with hypertension in both pregnancies, 2.8. The difference between the first-pregnancy and both-pregnancy groups was statistically significant, she noted.

"We don't think that [this] information must be given to all women with gestational hypertensive disease, since it could cre-



ate a lot of anxiety in a large group of women who will never go on to develop ischemic heart disease," Dr. Wikström said.

Nevertheless, she added that giving such information "could

be considered in women with a history of severe or recurrent preeclampsia, or gestation with coexisting, avoidable independent risk factors such as smoking and obesity." ■

## High Dietary Fiber May Reduce Preeclampsia Risk

VIENNA — A high-fiber diet reduces the risk for preeclampsia in pregnant women, Michelle A. Williams, Sc.D., reported at the 14th World Congress of the International Society for the Study of Hypertension in Pregnancy.

There is a wide body of literature supporting the link between consumption of dietary fiber and reductions in blood pressure, as well as improvements in other cardiovascular risks, such as cholesterol and triglyceride concentrations, insulin sensitivity, and inflammation. Current dietary guidelines, therefore, recommend a diet containing at least five servings of fruits or vegetables daily and a total daily fiber intake of 20-30 g.

Now, similar findings from both a case-control study involving 511 women and a prospective cohort study of 875 women suggest that "current efforts to encourage populations to consume diets high in grains, fruits, and vegetables may also benefit pregnant women," said Dr. Williams, professor of epidemiology at the University of Washington and associate director of the Center for Perinatal Studies at Swedish Medical Center, both in Seattle.

In the case-control study, 172 women with preeclampsia and 339 controls, retrospectively, completed questionnaires about their diets during pregnancy and in the 3 months before becoming pregnant.

Median daily consumption of carbohydrates was significantly lower in the preeclampsia group (216 g vs. 253 g), as was fiber consumption (18 g vs. 19 g).

The women whose fiber intake placed them in the upper quartile of daily fiber

consumption (more than 24 g) were 51% less likely to develop preeclampsia than were those in the lowest quartile (less than 13 g), after controlling for maternal age, parity, adiposity, income, and total caloric consumption.

Because of the potential limitations of this type of study design—including selection and recall bias—Dr. Williams and her colleagues followed this study with a larger prospective study in which the women were given a structured interview at 12 weeks' gestation in addition to the periconceptional dietary intake questionnaire.

Of the 875 women with singleton pregnancies, 62 had preeclampsia. Of those, 23 were among the lowest quartile for daily fiber consumption (less than 11.9 g), while 14 were in the highest quartile (more than 20.7 g). The women with preeclampsia accounted for approximately 10% of the total 222 women in the lowest fiber consumption quartile, compared with just 6% of the 218 in the highest quartile.

After adjustment for total daily calories, age, race or ethnicity, parity, prepregnancy body mass index, and daily vitamin C intake, the relative risk for preeclampsia was reduced by 70% among those whose fiber consumption was in the highest quartile, compared with those in the lowest.

Even when a stricter definition of preeclampsia was used, resulting in the loss of 20 of the 62 women from the analysis, having the highest fiber consumption still cut the preeclampsia risk in half, Dr. Williams reported at the meeting. ■

## Uterine Artery Velocimetry at 24 Weeks Predicts Preeclampsia Recurrence

VIENNA — Uterine artery velocimetry performed at 24 weeks' gestation is a useful tool for predicting recurrence of preeclampsia and other complications in women who had preeclampsia in a previous pregnancy, Tiziana Frusca, M.D., reported.

A normal uterine artery velocimetry (UAV) at 24 weeks suggests a preeclampsia recurrence risk of less than 1%, whereas an abnormal result suggests a one-in-four chance that the patient will become preeclamptic again, as well as an elevated risk of other complications.

"Knowing these patients are at very high risk, we can monitor them more closely," Dr. Frusca said during the 14th World Congress of the International Society for the Study of Hypertension in Pregnancy.

Among 206 women with documented preeclampsia in a previous pregnancy,

39% had had severe or early-onset preeclampsia, 21% had chronic maternal disorders such as hypertension or autoimmune disorders, and 77% had been treated prophylactically with low-dose aspirin.

Preeclampsia recurred in 5.3% of subsequent pregnancies, whereas 12% (24) had hypertension without proteinuria, 14% (28) had intrauterine growth retardation (IUGR), and 1% (2) had placental abruption.

Abnormal UAV—defined as a mean resistance index greater than 0.65 and/or the presence of bilateral notches—was identified in a total of 20% (41) of the women, while 80% (165) had normal UAV.

Complications were significantly more common among the women with abnormal UAV and included hypertension without proteinuria (29% vs. 7%), IUGR (44% vs. 6%), and preeclampsia (24% vs. 0.6%), said Dr. Frusca of the department of ob.gyn. at the University of Brescia, Italy.

There were no differences in outcome related to whether the prior preeclampsia had been early vs. late, whether the mother had any underlying chronic conditions, or whether she had been treated previously with low-dose aspirin, according to Dr. Frusca.

These results suggest an overall preeclampsia recurrence risk of 1 in 19, which rises to 1 in 4 if the woman has an abnormal Doppler at 24 weeks. However, if the UAV is normal, the recurrence risk is only 1 in 165.

"A normal uterine artery velocimetry at 24 weeks is a very reassuring sign in a woman with previous preeclampsia," Dr. Frusca said. ■

