

# Pheochromocytoma Oft Mistaken for Preeclampsia

*Testing for urinary metanephrines had the greatest diagnostic sensitivity in cardiovascular event patients.*

BY ELIZABETH MECHCATIE  
Senior Writer

BETHESDA, MD. — With timely diagnosis and treatment, the prognosis can be good for women with pheochromocytoma during pregnancy, Dr. Henri Timmers said at an international symposium on pheochromocytoma sponsored by the National Institutes of Health.

His conclusion, based on a literature review of more than 100 cases, also found that maternal morbidity is high when diagnosis is delayed, said Dr. Timmers, of the department of endocrinology, Radboud University Nijmegen Medical Center, Nijmegen, the Netherlands.

Pheochromocytoma affects an estimated 1/50,000 full-term pregnancies and is associated with high maternal and fetal

morbidity and mortality. Pheochromocytoma during pregnancy is often missed because it can mimic preeclampsia, delaying diagnosis and appropriate treatment, Dr. Timmers noted.

He and associates found a total of 174 reports of histology-confirmed cases of pheochromocytoma during pregnancy, in a PubMed database search for case reports in English. The mean age of the women was 28 years, 7% had previously been diagnosed with pheochromocytoma and 17% had been previously diagnosed with hypertension; 61% had been pregnant before and 14% had been previously diagnosed with pregnancy-induced hypertension.

In 73% of cases, the diagnosis of pheochromocytoma was made before delivery, with the remainder diagnosed postpartum (17%) or postmortem (10%).

Nearly 90% of the patients were hypertensive, but in only 42% of the cases was presentation typical for pheochromocytoma, where hypertension is usually accompanied by headache, palpitations, or sweating. In 25% of the cases, presentation was a hypertensive emergency, which included cases of severe pulmonary edema, he said.

In 31% of the cases, the initial diagnosis was incorrect, with almost half of the incorrectly diagnosed patients presenting with a severe cardiovascular complication; of these 24 patients, 10 patients died. Fetal and neonatal mortality was 22%. Overall maternal mortality was about 14%, but it was markedly higher in different subgroups: It was 38% among the women who were incorrectly diagnosed and 49% among

those with a cardiovascular emergency.

The biochemical test with the greatest diagnostic sensitivity in this population was urinary metanephrines, with a sensitivity of 98%; the lowest sensitivity was for plasma catecholamines (91%). The sensitivity of MRI was 95%.

Surgery was performed in 69 of these patients, either before 24 weeks gestation or during a cesarean section; in 68 patients, surgery was performed post partum.

During the discussion period, moderator Dr. William Manger, of New York University and the chairman of the National Hypertension Association, New York City, said that pheochromocytoma, though rare, is a devastating condition and should be routinely considered in pregnant women with hypertension. ■

**Nearly 90% of patients were hypertensive. But, in only 42% of the cases was the presentation considered typical for pheochromocytoma.**

## Bed Rest for Hypertension in Pregnancy: Evidence is Weak

BY ROBERT FINN  
San Francisco Bureau

Although physicians have long recommended bed rest or restricted activity for pregnant women with hypertension, a systematic review of available studies found only weak evidence that this practice benefits women or their children.

In the review, published by the Cochrane Collaboration, Dr. Shireen Meher of the University of Liverpool (UK), and colleagues were able to identify only four studies involving a total of 449 women that directly addressed this issue (Cochrane Database of Systematic Reviews 2005, Issue 4, Art. No. CD003514.pub2. DOI: 10.1002/14651858.CD003514.pub2).

Two of the studies enrolled women hospitalized for preeclampsia (proteinuric hypertension) and compared some rest with strict bed rest. These two trials failed to find any significant differences between the groups on any measure.

The other two trials, one of which the authors described as having "uncertain"

quality, compared some bed rest in the hospital with routine activity at home for nonproteinuric hypertension. One of those studies found the risk of severe hypertension reduced by 42% and the risk of preterm birth reduced by 47% in women getting some bed rest in the hospital.

Although those results reached statistical significance, the clinical significance remains unclear, concluded the authors. The results had very wide confidence intervals: 11%-62% reduced risk of severe hypertension and 1%-71% reduced risk of preterm birth.

There were no statistically significant differences between the groups on many other potential outcomes, including miscarriage, perinatal death, severe preeclampsia, placental abruption, elective delivery, endotracheal intubation, and infants who were small for their gestational age.

None of the studies reported any adverse events associated with bed rest. Potential adverse events include thrombosis, muscle atrophy, and bone demineralization.

In addition to these negative medical consequences, bed rest may have other types of

negative effects. None of the included studies examined the financial implications of bed rest for women, their families, and the health care system.

The authors concluded that the published studies provide insufficient evidence to provide clear guidance for clinical practice. Thus, they wrote, the evidence base does not support the routine recommendation of bed rest for hypertension in pregnancy. ■



Bed rest, a time-honored treatment for hypertension during pregnancy is of little benefit, a study review concludes.

STANFORD W. CARPENTER

## CVD Risk Elevated in Women With Placental Syndromes

BY MARY ANN MOON  
Contributing Writer

Women who have placental syndromes are at high risk for premature cardiovascular disease, particularly if there is associated fetal compromise, according to Dr. Joel G. Ray, of the University of Toronto, and his associates.

The level of cardiovascular risk that is conferred by a placental syndrome—preeclampsia, gestational hypertension, placental abruption, or placental infarction—is comparable with that of such conventional risk factors as hypertension, obesity, diabetes, and dyslipidemia.

"We believe that maternal placental syndrome should be considered an additional risk factor for cardiovascular disease in women, especially when the woman's fetus is adversely affected," Dr. Ray, of the division of obstetrics and gynecology at the university, and his associates said (Lancet 2005;366:1797-803).

They assessed cardiovascular outcomes in a population-based study of Ontario residents who gave birth between 1990 and 2004. The mean maternal age at delivery was 28 years. Of the 1,026,265 subjects, 75,380 (7%) were diagnosed as having a placental syndrome.

After a mean of 8.7 years' follow-up, cardiovascular events occurred in more than twice as many women with placental syndromes as in women without placental syndromes, irrespective of the presence of potential confounders such as diabetes.

The rate of events was 500/million person-years among those with placental syndromes, compared with 200/million in those without placental syndromes.

The women's mean age was 38 years at the time of the first cardiovascular event. These included coronary, cerebrovascular, or peripheral artery events, or the need for a revascularization procedure.

The risk for cardiovascular events was even higher if the placental syndromes led to fetal growth restriction or intrauterine fetal death. It was higher still in women who had preexisting cardiovascular risk factors when they became pregnant, such as smoking or various features of the metabolic syndrome.

The findings do not imply that placental disorders cause cardiovascular events to occur in the near future, the investigators cautioned.

"Rather, a more plausible explanation relates to a woman's abnormal metabolic milieu that predates her pregnancy and continues after delivery. This chronic state of dysmetabolism might create an inhospitable environment during the development of the placental spiral arteries, which can adversely affect fetal health, while negatively affecting the large arteries of a woman's heart, brain, and extremities over a broader period of time," researchers noted.

Physicians "should try to ensure that women are a healthy weight before they enter their reproductive years." This should reduce their risk for placental syndromes and fetal compromise as well as for cardiovascular disease, Dr. Ray and his associates said.

It remains unknown whether women who have had placental syndromes might be able to lower their risk of premature cardiovascular disease by making lifestyle modifications, they added. ■