Detection of Midpregnancy Fall in Blood Pressure by Out-of-Office Monitoring

To the Editor:

Silva et al have demonstrated the absence of a midpregnancy fall in diastolic blood pressure (BP) in women with a low educational level. Their previous articles also showed that maternal socioeconomic status is associated with a risk of gestational hypertension and preeclampsia. However, they did not demonstrate a midpregnancy fall in systolic BP in all of the educational subgroups.

Ambulatory BP monitoring is one way to resolve inferior results from isolated BP measurements. Hermida et al measured ambulatory BP in 403 pregnant women for 48 consecutive hours every 4 weeks from the first obstetric visit until delivery. They found that BP steadily decreased up to 20 weeks of pregnancy and increased up to the day of delivery. Conversely, in women with gestational hypertension and preeclampsia, BP remained stable until the 22nd week of gestation and then linearly increased for the remainder of the pregnancy.

The American Heart Association, American Society of Hypertension, and Preventive Cardiovascular Nurses Association scientific statements indicate that home BP monitoring might overcome many of the limitations of traditional office BP measurements, and it is less expensive and easier to perform than ambulatory BP monitoring. Home BP measurements are theoretically ideal for monitoring changes in BP during pregnancy, because home measurement is the optimal way to record multiple readings taken at the same time of day over prolonged periods.

We recently conducted a prospective observational study (Babies and Their Parents’ Longitudinal Observation in Suzuki Memorial Hospital on Intrauterine Period Study), in which we averaged 100 BP measurement points during pregnancy in 101 normotensive pregnant women. We found that BP during pregnancy is associated with both seasonal effects and gestational age. We found that the gestational week when BP reached the nadir differed according to the season in which delivery was predicted. As Silva et al commented in their Discussion, the absence of a midpregnancy fall in BP is reportedly associated with preeclampsia, according to a population study, and may be a sign of latent endothelial dysfunction. However, the amplitude of the fall in midpregnancy BP seems smaller than that of circadian, daily, and seasonal BP variations. Home BP measurement would be a good tool with which to detect such small changes in BP during early pregnancy.

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Disclosures

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