course, significant and warrants careful clinical consideration because this technique could exacerbate hypoxemia in the child with transposition; but the potential advantage of this technique is the ability to eliminate the afterload rapidly. Further experimental work is necessary to determine the minimal afterload requirements to induce sufficient myocardial hypertrophy to sustain the increased ventricular work after arterial switch repair in a child with transposition and whether sufficient hemodynamic/metabolic stability can be maintained with the application of this method.

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References

Blunted Nocturnal Fall in Blood Pressure in Hypertensive Women

We have read with great interest the important study by Verdecchia et al., who found that a blunted nocturnal fall in hypertensive women may predict future morbid cardiovascular events.

However, these authors (and many others) fail to recognize a technical problem when calculating day-night blood pressure relations: the siesta, the afternoon nap, which is common practice in Mediterranean countries including Italy, where the above study took place. We have found that daytime sleep ambulatory blood pressure is reduced to levels similar to nighttime sleep ambulatory blood pressure in people taking siestas. When day and night are defined arbitrarily (as in the above study: 6:00 AM to 10:00 PM) and not according to actual sleeping time, the day-night blood pressure difference is diminished by about 50% of the difference when actual awake-asleep difference is considered. Consequently, had Verdecchia et al calculated the actual day-night blood pressure differences and not “diluted” them with daytime sleep blood pressure, their relation might have been stronger and perhaps could have been significant for men and not only for women.

Since the siesta may have a great impact on day-night ambulatory blood pressure difference, we suggest that actual asleep-asleep status (as reported by the patient) be taken into account when attempting to draw conclusions on diurnal-nocturnal blood pressure variability.

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References

Reply

We agree with Dr. Bursztyn and coworkers that the blood pressure reduction associated with sleep may be similar during night and afternoon nap. Our first observation is that the time spent in bed should not be automatically identified with the actual sleeping time. Deguaute and coworkers used electroencephalography to precisely assess the duration of sleep in 44 subjects and found that noninvasive ambulatory blood pressure monitoring is associated with a significant (P < .005) increase in the time spent awake during night (66 minutes on average versus 43 to 52 minutes at night when the subjects did not wear the blood pressure recording apparatus). Hence, in the absence of electroencephalographic control we have no support apart from the patient’s diary to establish that a given blood pressure measurement during night or afternoon was actually taken while awake or asleep. Dr. Bursztyn is certainly right when he suggests that the inclusion of blood pressure values recorded during the afternoon nap might lead to an underestimation (“dilution”) of average daytime blood pressure. However, in his study the mean duration of siesta was 1.8 hours (SD, 0.6), only 11% of the total daytime period as defined in our study (ie, between 6:00 AM and 10:00 PM). That may imply a negligible underestimation of mean daytime ambulatory blood pressure and, consequently, of the percent reduction of blood pressure from day to night, for the effect of inclusion of blood pressure during the afternoon nap. The possibility raised by Dr. Bursztyn could be properly tested by assessing whether daytime blood pressure not including siesta is equally or differently predictive of target organ damage in hypertension from that including siesta. At present, we do not dispose of complete information concerning the afternoon siesta in all our patients. In our opinion, however, the definition of the daytime and nighttime subperiods should be preferentially expressed using fixed, albeit arbitrary, time intervals so as to improve comparability between studies from different laboratories and to reduce the possibility of inaccuracies in defining awake-asleep or activity-rest cycles.

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