ONE MINUTE CONSULT

BRIEF ANSWERS TO SPECIFIC CLINICAL QUESTIONS

Q: 'White coat hypertension'—should it be treated or not?

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Treatment is controversial, and any benefit is unproven

A: It remains controversial whether white coat hypertension (blood pressure that is elevated in the clinic but normal outside of the clinic[1]) should be treated with antihypertensive medications, but any benefits of treatment are unproven.

White coat hypertension is relatively common, affecting up to 20% of patients with mild hypertension. To detect it, one must measure the blood pressure both in the clinic repeatedly to establish that it is persistently high, and also away from the clinic.

The diagnosis can most reliably be established by performing a 24-hour blood pressure recording using ambulatory monitoring, although the finding of persistently normal blood pressure at home as measured by the patient or family member certainly supports the diagnosis.

HOW SHOULD WHITE COAT HYPERTENSION BE DEFINED?

Experts still disagree as to what levels of 24-hour blood pressure should be used to define white coat hypertension.

Nearly everyone accepts that hypertension in the clinic should be defined by a cutoff point of 140/90 mm Hg. Although the risk is higher for persons with "high-normal" blood pressure (130–139/85–89 mm Hg) than for those with "optimal" blood pressure (< 120/80 mm Hg),[2] we do not know the benefits of starting treatment at this level.

In contrast, many different levels of ambulatory pressure have been used to define the upper limit of normal for ambulatory pressure. The most widely used has been a daytime pressure of 135/85 mm Hg, or in some cases 130/80 mm Hg.[3] The rationale is that 135/85 mm Hg—roughly equivalent to 140/90 mm Hg in the clinic—appears to be the level above which cardiovascular morbidity starts to rise substantially.

IS WHITE COAT HYPERTENSION BENIGN?

The assumption that patients with white coat hypertension are at less cardiovascular risk than are patients with sustained hypertension is based on several studies that examined the prognostic significance of ambulatory blood pressure monitoring in comparison with clinic blood pressure measurement.[4]

Although these studies differed widely in their design, ranging from a population study to one of patients with refractory hypertension, the results all pointed in the same direction: ambulatory pressure gives a better prediction of prognosis after controlling for clinic pressure, and therefore patients with white coat hypertension have a more benign prognosis than those with sustained hypertension.

However, another line of evidence, which is much less consistent, links white coat hypertension to target organ damage, principally left ventricular hypertrophy measured by echocardiography. While most studies have found that target organ damage is less prevalent in patients with white coat hypertension than sustained hypertension,[5] others have claimed that patients with white coat hypertension have higher-than-normal left ventricular mass.[6]

WHAT ARE THE EFFECTS OF TREATING WHITE COAT HYPERTENSION?

No randomized trial has ever been performed to determine if the treatment of white coat hypertension is beneficial or harmful.

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The closest we have come is a substudy of the Syst-Eur study,[7] in which elderly patients with isolated systolic hypertension were randomized to be treated with nitrendipine (a dihydropyridine calcium channel blocker) or placebo, and studied with both clinic measurement and ambulatory blood pressure measurement.

Drug treatment lowered clinic pressure in all patients but had little effect on the ambulatory pressure in patients with white coat hypertension. Treatment reduced the rate of strokes (the main end point in this study) in the patients with sustained hypertension, but there was no evidence of any benefit from treatment in those with white coat hypertension, who had a very low stroke rate whether or not they were treated.

The results of other studies were consistent with the view that white coat hypertension is not likely to be improved by drug treatment. Several studies showed that the main effect of antihypertensive drugs is to lower the clinic pressure, without having a significant effect on the ambulatory pressure,[1] which by definition is normal to begin with.

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