Myths Connect Hypertension and Headaches

BY SHERRY BOSCHERT

SAN FRANCISCO — Hypertension causes headaches. Treating hypertension decreases headaches. Headaches increase the risk for stroke and heart disease.

Really? Not quite, Dr. Dara G. Jamieson said at the annual meeting of the American Society of Hypertension.

The reality is more nuanced:

► Acute hypertension can cause headache in some cases, but chronic hypertension does not.

► Treating chronic hypertension possibly decreases headaches, and treating acute hypertension can decrease headaches in some cases.

► General headaches or migraines without aura do not increase risk for stroke or heart disease, but risks for these cardiovascular problems are increased in patients who get migraines with aura, especially in women, said Dr. Jamieson of Cornell University, Ithaca, N.Y.

She described in more detail the scenarios that clinicians need to think about in the interface between hypertension and headaches.

► **Hypertension causing headaches.** A common misconception (especially among patients) that hypertension causes headaches derives from long-standing misinterpretations of a 1913 study of 870 hypertensive patients (Arch. Intern. Med. 1913;12:755-98), she said. Epidemiologic studies in the 1980s and 1990s, however, found that baseline blood pressure measurements in 22,685 adults were not associated with the risk for headaches (including migraines). On the contrary—elevated blood pressures and pulse pressures were associated with a reduced risk of headaches.

Unlike chronic hypertension, acute hypertension can cause headaches in specific circumstances, the most common being pheochromocytoma, which presents with headache in up to 80% of cases as part of a complex of symptoms.

A recurrent, short-lasting headache has been linked with transient, paroxysmal elevations of blood pressure in patients without underlying causes of pheochromocytoma. This type of headache is thought to be caused by chronic baroreceptor failure. It is seen mainly in patients who have had radiation therapy to the neck, carotid endarterectomies, or radical neck dissections, and it responds to clonidine therapy.

► **Hypertension plus headache.** A patient with a sudden-onset neurologic deficit with some degree of headache may be having an intracerebral hemorrhage or ischemic stroke. In this case, blood pressure elevation will be out of proportion to the headache. In comparison, someone with an acute thunderclap headache and less dramatic elevation in blood pressure is more likely to be having a subarachnoid hemorrhage.

Headache can be caused by acute elevation in blood pressure due to hypertensive encephalopathy, preeclampsia, eclampsia, HELLP syndrome (hemolysis, elevated liver enzymes, and low platelet count), or posterior reversible encephalopathy syndrome (PRES), Dr. Jamieson said. It's important to quickly recognize and aggressively treat PRES, which has a diverse presentation and can be deadly if untreated.

► **Treating hypertension.** A meta-analysis of 94 trials suggested that all classes of antihypertensive drugs reduce the prevalence of headache, but the analysis did not address the causes of headaches (Circulation 2005;112:2301-6). Some antihypertensive drugs can cause headache, especially nitric oxide donors including amyl nitrate, isosorbide, nitroglycerin, and sodium nitroprusside.

► **Stroke and heart disease.** In the 10-year Women's Health Study, migraine with aura was associated with an increased risk for ischemic stroke, MI, cardiac revascularization, and angina. An association was not so clear for men in the 16-year Physicians' Health Study, which did not differentiate between migraines with or without aura. Migraine was associated with increased risk for MI, increased risk for ischemic stroke in men aged 40-54 years, and no increased risk for angina or cardiac revascularization.

She has been a speaker or consultant for Merck & Co. Inc., Boehringer Ingelheim, and Bayer, which make medications for headaches and/or hypertension. ■