

Neuroimaging Sorts Out Eclampsialike Conditions

BY CHRISTINE KILGORE
Contributing Writer

Neuroradiologic studies can provide valuable diagnostic information in women who present during pregnancy or the puerperium with apparent eclampsia or similar neurologic manifestations, British investigators have reported.

A host of less common neurologic conditions and manifestations may mimic or resemble eclampsia and, because signs and symptoms are often nonspecific, it can be difficult to differentiate these conditions "on clinical grounds alone," they said in a recently published pictorial review.

"Neuroimaging in a clearly defined case of eclampsia may not be necessary but, if there is focal neurology or deterioration in neurological status, imaging should be performed," said Dr. R. Dineen of the department of neuroradiology at Queen's Medical Centre in Nottingham, England, and his associates.

Without it, the diagnosis of various conditions—from intracranial hemorrhage and other cerebrovascular conditions, to intracranial tumors and various pituitary and metabolic conditions—may be delayed as women are mistakenly treated for eclampsia, they said.

In women with true eclampsia, the most frequent abnormality detected on cranial MRI is high-signal change on T2-weighted and FLAIR images. Lesions are commonly seen in both deep and subcortical white matter, often with a posterior

circulation distribution, and within the basal ganglia.

Lesions also occur within the pons and brainstem, and correspond to low-attenuation areas on CT scanning.

The majority of lesions are reversible but some may progress to infarction, the investigators said.

Several "overlap syndromes"—postpartum cerebral angiopathy, hypertensive encephalopathy, and reversible posterior leukoencephalopathy syndrome—may show neuroimaging features that are similar to or indistinguishable from those of eclampsia, the authors said (*Clin. Radiol.* 2005;60:1156-70).

Neuroimaging features are more distinct with other neurologic emergencies, such as the cerebrovascular disorders that can occur in pregnancy or the puerperal period: arterial ischemia and infarction, intracranial hemorrhage, venoocclusive disease, and vasculitis.

The mainstay for investigating ruptured intracranial aneurysms—the most common cause of subarachnoid hemorrhage and a cause of intracerebral hemorrhage—is CT with either CT angiography or conventional angiography. Magnetic resonance angiography, however, can be used to assess aneurysms without the need for ionizing radiation or contrast media.

Just as the risk of ruptured intracranial aneurysms increases for women who are pregnant or in the puerperal period, compared with nonpregnant women, the risk of intracranial venoocclusive disease is

particularly increased around the puerperal period. Intracranial venoocclusive disease also can occur in women with pre-eclampsia.

Women with the condition present with headache, confusion, decreased consciousness level, papilledema, seizures, and often, focal deficits.

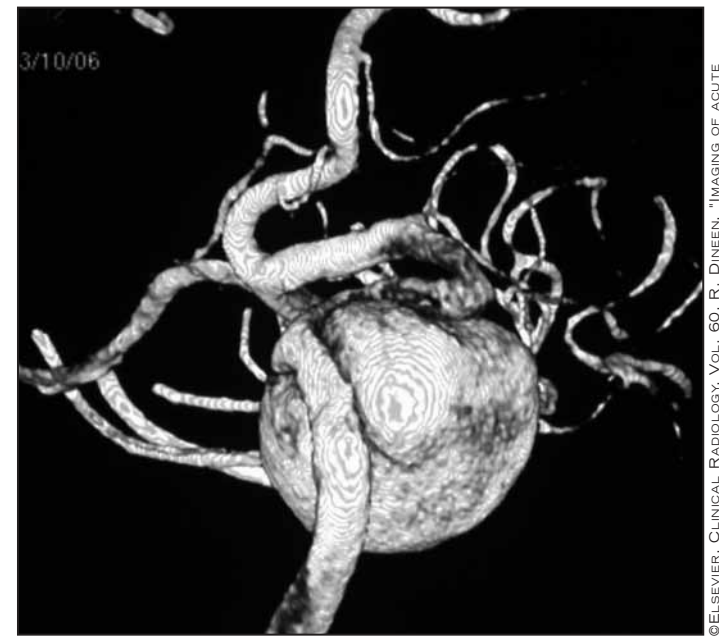
CT scanning shows hyperdensity in the venous sinuses, cortical veins, or deep cerebral veins. When venous infarction develops, areas of low attenuation are seen.

Patterns of venous infarction on MRI "do not conform to the contours expected from an arterial occlusion," the investigators noted.

T2-weighted images show high-signal change involving the white matter with absent flow void in the related cortical vein or dural venous sinus.

Precautions should be taken to limit fetal exposure to ionizing radiation, however, "fetal exposure to ionizing radiation from CT of the maternal head is extremely low, and the risk to the fetus is likely to be considerably less than the risk to both the fetus and mother from an acute neurological condition," the investigators wrote in their report.

Neuroimaging may not be necessary in clear eclampsia, but 'if there is focal neurology or deterioration in neurologic status,' it should be done.



An internal carotid catheter angiogram shows a giant intracavernous aneurysm at the underside of the C4 segment.



A CT scan shows hemorrhagic venous infarction in the left temporal lobe.

©ELSEVIER, CLINICAL RADIOLOGY, VOL. 60, R. DINEEN, "IMAGING OF ACUTE NEUROLOGICAL CONDITIONS IN PREGNANCY AND PUERPERIUM," 1156-1170, 2005. REPRINTED WITH PERMISSION FROM THE ROYAL COLLEGE OF RADIOLOGISTS

CLINICAL CAPSULES

HPV Is Age Blind, Keep Screening

Women aged 51 years are at least as likely as were younger women to become infected with human papillomavirus, a study suggests; the findings indicate that cervical screening should not be discontinued after age 50.

To compare rates of HPV acquisition in older and younger women, paired archived cervical smears taken an average of 3 years apart from 656 women were tested. Of these, 567 were negative for HPV at baseline, Dr. Matthew J. Grainge of the University of Nottingham (England) and his colleagues reported.

Of 333 women aged 51 years at the time of a baseline smear that was HPV negative, 21% had a positive smear 3 years later, compared with 15% of 66 women aged 21 years, 14% of 85 women aged 31, and 13% of 83 women aged 41 at the time of a negative baseline smear. The differences were not statistically significant, the investigators noted (*Emerg. Infect. Dis.* 2005;11:1680-5).

Prospective research is needed on the effects of HPV acquisition during middle age, such as the associated risk for high-grade cervical intraepithelial neoplasia and cervical cancer, they concluded.

BV and Cytomegalovirus in Cahoots

Bacterial vaginosis appears to facilitate local cytomegalovirus replication as well as infection with multiple CMV strains, Dr. Shannon A. Ross of the University of Alabama at Birmingham and her colleagues have found.

Conversely, the presence of CMV infection may facilitate BV, the investigators noted. An analysis of vaginal wash specimens from 52 women who presented to a sexually transmitted disease clinic showed that CMV shedding was significantly more common in women with BV (52% of 21 women), compared with those without BV (19% of 31 women). Multiple CMV strains were found in 91% of women with CMV shedding and BV vs. 83% of those with CMV shedding and no BV (*J. Infect. Dis.* 2005;192:1727-30).

Additional study of the correlations between BV and CMV is needed, and could provide insight regarding the effects of BV treatment on CMV replication and local inflammatory response, they concluded.

Girls' Body Images Depend on Moms

Adolescent girls who reported peer and parental attitudes that encouraged healthy behavior and exercise, rather than

weight loss, were significantly more likely to report high levels of body satisfaction, said Dr. Amy M. Kelly and her colleagues at the University of Minnesota, Minneapolis.

Overall, 26.7% of 2,357 middle and high school students surveyed in 1998-1999 reported high body satisfaction (*J. Adolesc. Health* 2005;37:391-6). The study population included 46% whites, 21% Asian Americans, 20% African Americans, and 5% Hispanics.

Body satisfaction was significantly higher among African American girls (40%) and underweight girls (39%) after controlling for ethnicity, socioeconomic status, and age. Girls with high body satisfaction were more likely to report having mothers who exercised for fitness and who encouraged them to be active and eat healthfully.

In addition, girls who reported high body satisfaction were more likely to report that they cared about their health, being fit, and exercising.

HCM More Severe in Women

Hypertrophic cardiomyopathy is diagnosed later in women than in men, and it is more likely to progress to severe, disabling symptoms or death, reported Dr. Iacopo Olivotto of Azienda Ospedaliera

Universitaria Careggi, Florence, Italy, and associates.

Both findings "underscore the importance of heightened suspicion for HCM in women," the researchers said (*J. Am. Coll. Cardiol.* 2005;46:480-7).

They assessed disease progression over an average of 6 years in 969 consecutive patients treated for HCM at three medical centers in Italy and the United States. The 393 women were an average of 9 years older than the 576 men at diagnosis.

Nearly 60% of the women had severe symptoms, including exertional dyspnea, chest pain, and syncope, compared with fewer than 40% of the men.

Women were more likely to have left ventricular outflow obstruction, possibly because of the smaller dimensions of their left ventricular cavities.

Although treatment was equivalent for men and women once they were diagnosed, women were much more likely to show symptomatic progression and to die from heart failure or embolic stroke. This was due in part to the delay in diagnosis and treatment, but the data also suggest that some other, as yet unknown, mechanism related to female gender may make women more prone to HCM progression, the researchers said.

—From staff reports