Packer, Children's National Medical Center, 111 Michigan Ave NW, Washington, DC 20010. E-mail: rpacker@childrensnational.org).

COMMENT. With a clearer understanding of tumorigenesis, molecular growth pathways, and immune mechanisms in pathogenesis of brain tumors, clinical trials of novel biologic agents are showing better CNS penetration and lower toxicity profiles compared with conventional chemotherapy. The effects of newer targeted agents on the developing nervous system must be further investigated since the pediatric brain may be more vulnerable to toxicity. (Wells EM et al. **Pediatr Neurol** 2012 Apr;46(4):212-221).

PATHOPHYSIOLOGY OF IDIOPATHIC INTRACRANIAL HYPERTENSION

Investigators at Emory University, Atlanta, GA review the epidemiology, pathophysiology and management of idiopathic intracranial hypertension (IIH), sometimes called pseudotumor cerebri or benign intracranial hypertension, terms now considered inappropriate. Theories regarding the pathophysiology of IIH involve obesity in young women and adipose tissue as an actively secreting endocrine tissue, vitamin A metabolism, and cerebral venous abnormalities, but the definitive etiology is unknown. No evidence based consensus or formal guideline is developed regarding management. Diagnostic lumbar puncture (CSF opening pressure >25 cm water) is a valuable intervention in treatment, and dietary modification to correct obesity is essential. The efficacy of acetazolamide, CSF shunting and cerebral transverse venous sinus stenting remains to be established.

Male patients are affected less frequently than female but their visual prognosis is worse. Various medications may cause or precipitate IIH, including tetracycline, cyclosporine, lithium, oral contraceptives, and tamoxifen. Obstructive sleep apnea is an obesity and IIH-associated factor. Proposed mechanisms for IIH include increased brain water content, excess CSF production, reduced CSF absorption, and increased cerebral venous pressure. Stenosis (not thrombosis) of a dominant transverse sinus (TSS) is a frequent finding and can impair venous drainage; correction of TSS following lumbar puncture or CSF shunt may be associated with relief of IIH and headache. Venous sinus stenosis leads to venous hypertension, decreased CSF absorption, increased ICP, and venous sinus compression. MRI findings in IIH include TSS, flattening of the posterior pole of eyes, dilation and tortuosity of optic nerve sheaths, and empty sella.

Therapy involves lumbar puncture, weight reduction, and carbonic anhydrase inhibitors, acetazolamide and the weak inhibitor, topiramate. Surgery and optic nerve sheath fenestration or LP or VP shunt is performed in patients with visual loss and papilledema. (Biousse V, Bruce BB, Newman NJ. Update on the pathophysiology and management of idiopathic intracranial hypertension. **J Neurol Neurosurg Psychiatry** 2012 May;83:488-494). (Respond: Dr V Biousse, Neuro-Ophthalmology Unit, Emory Eye Center, 1365-B Clifton Rd NE, Atlanta, GA 30322. E-mail: vbiouss@emory.edu).

COMMENT. Factors independently cited by the authors as predictive of a worse prognosis in IIH include male gender, African American race, obesity, anemia, obstructive sleep apnea, and fulminant onset of IIH.