

Review examines methods for diagnosis of elevated ICP in critically ill

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(HealthDay)—Physical examination signs are not sufficiently sensitive

for detecting elevated intracranial pressure (ICP) in critically ill adults, according to a review published online July 24 in the *BMJ*.

Shannon M. Fernando, M.D., from the University of Ottawa in Canada, and colleagues conducted a [systematic review](#) and meta-analysis to compare the accuracy of different methods for the diagnosis of elevated ICP in critically ill patients. Data were included from 40 studies with 5,123 patients, which compared the accuracy of physical examination, computed tomography (CT), sonography of the optic nerve sheath diameter (ONSD), and transcranial Doppler pulsatility index (TCD-PI).

The researchers found that using [physical examination](#) for detecting increased ICP, the sensitivity and specificity were 28.2 and 85.9 percent for pupillary dilation, 54.3 and 63.6 percent for posturing, and 75.8 and 39.9 percent for Glasgow coma scale of 8 or less. Among CT findings, the sensitivity and specificity were 85.9 and 61.0 percent, 80.9 and 42.7 percent, and 20.7 and 89.2 percent, respectively, for compression of basal cisterns, any midline shift, and midline shift of at least 10 mm. For ONSD sonography, the pooled area under the receiver operating characteristic (AUROC) curve was 0.94. TCD-PI had [poor performance](#) for identifying elevated ICP (AUROC curve ranging from 0.55 to 0.72).

"CT findings (namely, effacement of basal cisterns) had better diagnostic accuracy, but are not readily available in all centers," the authors write.

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