Transorbital ultrasound imaging

Optic nerve sheath diameter measuring by transorbital ultrasound imaging is an accurate method for detecting intracranial hypertension that can be applied in a broad range of settings. It has the advantages of being a non-invasive, bedside test, which can be repeated multiple times for re-evaluation [1].

Ocular sonography shows good diagnostic test accuracy for detecting raised ICP compared to CT: specifically, high sensitivity for ruling out raised ICP in a low-risk group and high specificity for ruling in raised ICP in a high-risk group. This noninvasive point-of-care method could lead to rapid interventions for raised ICP, assist centers without CT, and monitor patients during transport or as part of a protocol to reduce CT use [2]

Padayachy et al present a method for assessment of optic nerve sheath ONS pulsatile dynamics using transorbital ultrasound imaging. A significant difference was noted between the patient groups, indicating that deformability of the ONS may be relevant as a noninvasive marker of raised ICP [3].

1)
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2)
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3)
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