Mean pulse amplitude

The role of ICP indices, specifically the mean pulse amplitude (AMP) and RAP index [correlation coefficient (R) between AMP amplitude (A) and mean ICP pressure (P); index of compensatory reserve], as an indicator of true ICP has been investigated. Whilst the RAP index has been used both as a descriptor of neurological deterioration in TBI patients and as a way of characterising the compensatory reserve in hydrocephalus, more recent studies have highlighted the limitation of the RAP index due to the influence that baseline effect errors have on the mean ICP, which is used in the calculation of the RAP index. These studies have suggested that the ICP mean pulse amplitude may be a more accurate marker of true intracranial pressure due to the fact that it is uninfluenced by the mean ICP and, therefore, the AMP may be a more reliable marker than the RAP index for guiding the clinical management of patients with raised ICP. Although further investigation needs to be undertaken in order to fully assess the role of ICP indices in guiding the clinical management of patients with raised ICP, the studies undertaken to date provide an insight into the potential role of ICP indices to treat raised ICP proactively rather than reactively and therefore help prevent or minimise secondary brain injury [1)].

1)
Hall A, O'Kane R. The best marker for guiding the clinical management of patients with raised intracranial pressure-the RAP index or the mean pulse amplitude? Acta Neurochir (Wien). 2016 Oct;158(10):1997-2009. doi: 10.1007/s00701-016-2932-z. Epub 2016 Aug 27. PubMed PMID: 27567609; PubMed Central PMCID: PMC5025501.