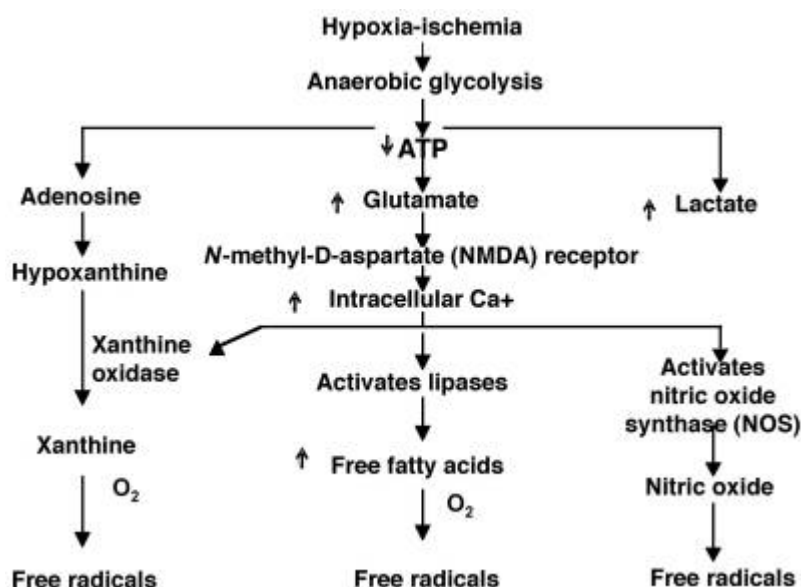


Hypoxic ischaemic brain injury



Hypoxic ischaemic brain injury is common and usually due to [cardiac arrest](#) or profound [hypotension](#). The clinical pattern and outcome depend on the severity of the initial [insult](#), the effectiveness of immediate [resuscitation](#) and [transfer](#), and the post-resuscitation management on the [intensive care unit](#). Clinical assessment is difficult and so often these days compromised by [sedation](#), [neuromuscular-blocking drug](#), [ventilation](#), [hypothermia](#) and inotropic management. Investigations can add valuable information, in particular brain MRI shows characteristic patterns depending on the severity of the injury and the timing of imaging. [EEG](#) patterns may also suggest the possibility of a good [outcome](#). There is no entirely reliable [algorithm](#) of clinical [signs](#) or [investigations](#) which allow a definitive prognosis but the combination of careful repeated observations and appropriate ancillary investigations allows the neurologist to give an informed and accurate opinion of the likely outcome, and to advise on management. Overall, the [prognosis](#) is extremely poor and only a quarter of patients survive to hospital [discharge](#), and often even then with severe neurological or cognitive deficits ¹⁾.

In eleven patients (median age of 47 [range 20-71], 8 male and 3 female). There was a linear relationship between [ICP](#) and non-invasive estimators of ICP (nICP) with [optic nerve sheath diameter ultrasonography](#) (ONSD) ($R = 0.53$ [$p < 0.0001$]), [JVP](#) ($R = 0.38$ [$p < 0.001$]) and [transcranial Doppler ultrasonography](#) (TCD) ($R = 0.30$ [$p < 0.01$]). The ability to predict [intracranial hypertension](#) was highest for ONSD and TCD ($AUC = 0.96$ [95% CI: 0.90-1.00] and $AUC = 0.91$ [95% CI: 0.83-1.00], respectively). [Jugular venous bulb](#) pressure (JVP). presented the weakest prediction ability ($AUC = 0.75$ [95% CI: 0.56-0.94]).

ONSD and TCD methods demonstrated agreement with invasively-monitored ICP, suggesting their potential roles in the detection of intracranial hypertension in [hypoxic ischaemic brain injury](#) (HIBI) after [cardiac arrest](#) ²⁾.

References

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