Decompressive Hemicraniectomy

Malignant middle cerebral artery (MCA) infarction should be considered as an important cause of early neurological deterioration, especially in young patients with clinically large (i.e. total anterior circulation syndrome) MCA infarcts. Clinically it should be suspected if the patient becomes progressively more drowsy and a CT scan reveals >50% of the middle cerebral artery territory affected by ischaemic change or oedema (low attenuation) and midline shift. This scenario is associated with a high mortality with medical treatment alone (80%). Hemicraniectomy performed early after stroke onset (<48hrs) in young patients has been shown to improve survival and functional outcome overall, although a sizeable proportion are left with significant disability.

Referral **should be** considered for patients with:

- Age < 60 (although consider biological as well as chronological age)
- < 48 hours from stroke onset
- Severe anterior circulation clinical syndrome (TACS / NIHSS > 15)
- Drowsy (NIHSS 1a ≥ 1)
- > 50% MCA territory hypo-density

Referral is **not** appropriate for patients with:

- Bilateral fixed dilated pupils
- Bleeding disorder (e.g. TPA <12hrs)
- Significant prior co-morbidity or disability (Modified Rankin scale > 2)
- Other explanation for drowsiness (e.g. metabolic, seizures)
- Contraindication to general anaesthetic

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