Multilobar Resection

Multilobar resection is a type of epilepsy surgery performed in patients with drug-resistant focal epilepsy involving more than one cerebral lobe, typically within the same hemisphere.

Definition

A **multilobar resection** refers to the surgical removal of cortical tissue from two or more lobes of the brain to eliminate or reduce seizures originating from a widespread, yet localizable, epileptogenic zone.

Indications

- Pharmacoresistant epilepsy with a well-defined multilobar epileptogenic zone
- Focal cortical dysplasia (especially Type II)
- Perinatal stroke or other structural lesions
- Tuberous sclerosis complex with a dominant epileptogenic tuber
- Posterior quadrant epilepsy (PQE)

Common Resection Patterns

- Temporo-parieto-occipital (posterior quadrant)
- Fronto-temporal
- Fronto-parietal
- Parieto-occipital

Preoperative Evaluation

- Scalp EEG and/or invasive monitoring (e.g., stereo-EEG, subdural grids)
- High-resolution MRI
- Functional neuroimaging: PET, SPECT, fMRI
- Neuropsychological assessment
- Functional mapping (motor, language, visual cortex)

⚖ Benefits vs. Risks

Benefits

- Potential for seizure freedom (Engel I outcome)
- Reduced seizure burden
- Improved quality of life

Risks

- Visual field defects (e.g., homonymous quadrantanopia)
- Hemiparesis, aphasia, or cognitive deficits
- Surgical risks: infection, hemorrhage, CSF leak

Outcomes

- Seizure freedom in 50–70% of well-selected cases
- Best outcomes achieved with complete resection of the epileptogenic zone
- Prognosis worsens in cases with bilateral or poorly localized epilepsy

Related Topics

- Epilepsy Surgery
- Focal Cortical Dysplasia
- Posterior Quadrant Epilepsy
- Temporal Lobectomy

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