Total Corpus Callosotomy

Total corpus callosotomy is a neurosurgical procedure that involves complete severing of the **corpus callosum**, the major fiber tract connecting the two cerebral hemispheres, to prevent the spread of epileptic discharges across hemispheres.

Indications

- Medically refractory **generalized epilepsy**
- Frequent and injurious **drop attacks** (atonic seizures)
- **Lennox-Gastaut syndrome**
- **Tonic/tonic-clonic seizures** not amenable to resective surgery
- Intractable epilepsy in **children with diffuse encephalopathies**

Surgical Technique

- **Approach**: Interhemispheric via midline craniotomy
- **Procedure**:
    1. Dissection through the **interhemispheric fissure**
    2. Identification and complete sectioning of the **corpus callosum**:
        - Genu (anterior)
        - Body (mid)
        - Splenium (posterior)
- **Staged option**: Anterior 2/3 callosotomy first; splenium later if needed

Outcomes

- Seizure reduction in **60–80%** of patients
- Most effective against **atonic (drop) seizures**
- Often reduces frequency and severity of generalized seizures
- **Improves quality of life**, reduces risk of falls and injuries

Complications

- **Disconnection syndromes**:
    1. Left-hand **apraxia**
    2. **Alexia without agraphia**
    3. **Alien hand phenomenon**
- Transient **speech and motor deficits**
- Rare: infection, hemorrhage, hydrocephalus

Clinical Notes

- Not curative, but highly beneficial in selected cases
- Requires careful **multidisciplinary evaluation**
- Particularly valuable when **epileptogenic zone is not localizable**