

□ Postoperative Subdural Hematoma (SDH)

□ Definition

A **postoperative subdural hematoma** is an accumulation of blood between the **dura mater and arachnoid membrane** that occurs after cranial surgery. It may be **ipsilateral, contralateral, or bilateral**, and can be acute or delayed in onset.

△ Etiology and Mechanisms

- Tearing of bridging veins during brain shift or retraction
- Intraoperative injury to cortical veins
- Coagulopathy (e.g., thrombocytopenia, anticoagulants, NSAIDs)
- Overdrainage of CSF (ventricular or lumbar)
- Sudden changes in intracranial pressure
- Brain atrophy (elderly patients more vulnerable)

□ Incidence

- Less common than epidural hematoma but more frequent in elderly or anticoagulated patients
- May present acutely (within 48 h) or subacutely/delayed (days to weeks)

□ Clinical Presentation

- Delayed awakening or deterioration of consciousness
- Progressive headache
- Hemiparesis or focal deficits
- Dysphasia, seizures
- Neurological worsening after initial improvement

□ Imaging Findings

- **CT scan:** crescent-shaped, hypodense/isodense or hyperdense subdural collection
- **MRI:** helpful in iso/hypodense cases or delayed diagnosis
- May show midline shift or compression of ventricles

□ Differential Diagnosis

- Epidural hematoma
- Postoperative infarct
- Hygroma
- Tension pneumocephalus

□ Management

- **Surgical evacuation** if:
 1. Mass effect present
 2. Neurological symptoms worsen
 3. Thickness >10 mm or midline shift >5 mm
- Techniques:
 1. Burr-hole drainage
 2. Craniotomy in organized or solid hematomas
- Reversal of anticoagulation or platelet transfusion if needed
- Intensive monitoring (neuro ICU)

□ Prognosis

- Depends on timing of diagnosis and neurological status at treatment
- Good prognosis with early recognition and intervention
- Delayed or missed SDH may lead to irreversible injury

□ Prevention

- Careful hemostasis and gentle brain retraction
- Controlled CSF drainage during and after surgery
- Avoid sudden intracranial pressure shifts
- Close monitoring in high-risk patients (elderly, anticoagulated)
- Early postoperative CT scan if symptoms or risk factors present

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