

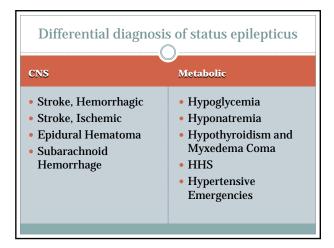
Discussion 1. MANAGEMENT OF STATUS EPILEPTICUS. 2. DIFFERENTIAL DIAGNOSIS OF STATUS EPILEPTICUS. 3. ANALYSIS OF LUMBAR PUNCTURE. 4. ANTIBIOTICS FOR MENINGITIS.

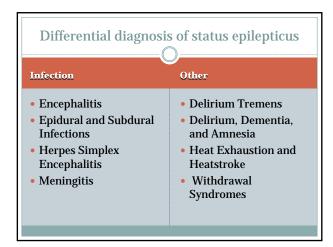
Management of status epilepticus

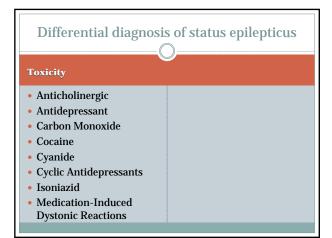
Secure airway appropriately Oxygen supplementation Large-bore intravenous line Fluid resuscitation with crystalloid solution Cardiac monitor Bedside glucose testing with supplementation if needed

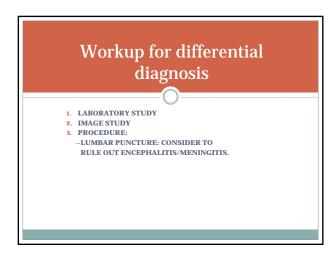
- **Thiamine** administration (100 mg IV) to treat or prevent Wernicke encephalopathy
- Sedation with benzodiazepines
- Check electrolytes, replace as needed
- Physical restraints often needed to ensure patient and staff safety (use in conjunction with chemical restraints)

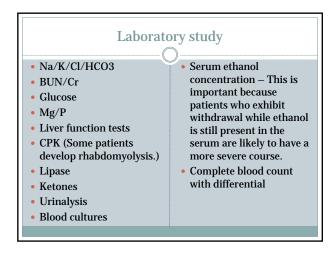
Differential diagnosis of status epilepticus











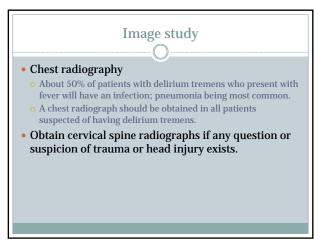


Image study

- CT scanning of the head is performed selectively. Indications for a head CT scan include the following:
- New-onset seizure
- o Seizures occurring over longer than a 6-hour period
- o More than 6 seizures
- Focal seizures
- o Evidence of head trauma
- Focal neurologic deficits
- A prolonged postictal state
- Deteriorating level of consciousness or failure to improve in level of consciousness over time

Analysis of lumbar puncture

Increased CSF pressure

- Congestive heart failure
- Cerebral edema
- Subarachnoid hemorrhage
- Hypo-osmolality resulting from hemodialysis
- Meningeal inflammation
- Purulent meningitis
- Tuberculous meningitis
- Hydrocephalus
- Pseudotumor cerebri

Decreased CSF pressure

- Complete subarachnoid blockage
- Leakage of spinal fluid
- Severe dehydration
- Hyperosmolality
- Circulatory collapse

Significant changes in pressure during the procedure

- Tumors
- Spinal blockage
- Hydrocephalus associated with large volumes of CSF

Pleocytosis

- Presence of WBC→ pleocytosis.
- Small number of monocytes → normal
- Presence of granulocytes → abnormal.
- Large number of granulocytes → bacterial meningitis.
- WBC can also indicate reaction to repeated lumbar punctures, CNS hemorrhage, leukemia, recent epileptic seizure, or a metastatic tumor.

Glucose level of CSF

- Glucose level is usually about 60% that in the peripheral circulation.
- Decreased glucose levels can indicate fungal, tuberculous or pyogenic infections; lymphomas; leukemia spreading to the meninges; meningoencephalitic mumps; or hypoglycemia.
- A glucose level of less than one third of blood glucose levels in association with low CSF lactate levels is typical in hereditary CSF glucose transporter deficiency also known as De Vivo disease.

Increased levels of lactate

- Presence of cancer of the CNS
- Multiple sclerosis
- Heritable mitochondrial disease
- Low blood pressure
- Low serum phosphorus
- Respiratory alkalosis
- Idiopathic seizures
- Traumatic brain injury
- Cerebral ischemia
- Brain abscess
- Hydrocephalus
- Hypocapnia
- Bacterial meningitis.

Changes in total protein

- Pathologically increased permeability of the blood-cerebrospinal fluid barrier
- Obstructions of CSF circulation
- Meningitis
- Neurosyphilis
- Brain abscesses
- Subarachnoid hemorrhage

- Polio
- Collagen disease or Guillain-Barré syndrome,
- Leakage of CSF
- Increases in intracranial pressure or hyperthyroidism.
- Very high levels of protein may indicate tuberculous meningitis or spinal block.

Antibiotics for meningitis



Common pathogen S. pneumoniae.

H. influenzae.

- **Cefotaxime** 2 grams IVPB q4h or **Ceftriaxone** 2 grams IVPB q12h) + **dexamethasone** (0.4mg/kg q12h x 2 days given 30 minutes prior to antibiotics)
- **Vancomycin** 1 gram IVPB q12h (may need higher doses).
- May also add **Rifampin** 600mg po qd or 300mg po bid.

If severe penicillin allergy:

• Chloramphenicol 1g IV q6h + Vancomycin +/- Rifampin.

Age > 50 years or alcoholism or other debilitating disease.

Common pathogens

Listeri

Ampicillin 2 grams IVPB q4h +
 [Ceftriaxone 2 grams IVPB q12h or
 Cefotaxime 2 grams IVPB q4-6h] +
 dexamethasone.

• Ampicillin 2g IV q4h + vancomycin 1g IV q12h plus either [Cefotaxime 2g IV q4-6h or Ceftriaxone 2g IV q12-24h

If severe penicillin allergy:

- Vancomycin 1 gram IVPB q12h + Bactrim 15-20 mg/kg/day in 4 divided doses pending culture results. or
- [Chloramphenicol 1g IV q6h + vancomycin +/- rifampin 300mg PO or IV bid]

Trauma or post neurosurgery

c :

- S. pneumoni
- P. aeruginosa.

Enterobacteriaceae

 Vancomycin 1 gram IVPB q6-12h + Ceftazidime 2 grams IVPB q8h. // If gram negative bacilli are suspected add Gentamycin IVPB +/intrathecally.

