Cerebral Venous Thrombosis in Children

Overall Aspects

- Rare condition in pediatric population
  ➔ 0.34 - 0.67 cases/100.000/year
- Affects primarily neonates
- Results in neurologic impairment or death in approximately half the cases.
  - Occurrence of venous infarcts or seizures portends a poor outcome.
- Increase in diagnostic frequency due to more sensitive and safe radiological exams
- Greater clinical awareness of the condition necessary

- A predisposing factor is often present:
  - Infections, dehydration, anemia, fever, hypoxic-ischemic injury
  - Head and neck infections (otitis media and mastoiditis, meningitis, sinusitis)
  - Head injury, post intracranial surgery
  - Heart disease, nephrotic syndrome, malignancy
  - Drugs (corticosteroids, L-asparaginase, oral contraceptives)

Clinical features

- Different symptoms
  - Seizures
  - Depressed level of consciousness and coma
  - Nausea and vomiting
  - Headache
  - Visual impairment
  - Neurological deficits

➔ Neonates: seizures and diffuse neurologic signs

Diagnostic Imaging

- Diagnosis: lack of flow in the cerebral veins
- Methods of choice for investigation: CT venography or MRI with venography

Treatment

Anticoagulation

- Well tolerated by children and neonates (in the absence of any contraindication).
- During the acute phase, anticoagulation is probably effective in reducing the risk of death and sequelae.
- Anticoagulation is also effective in reducing the risk of recurrence.
- The duration of anticoagulation needs to be individually tailored. Prolonged treatment over 3-6 months is justified according to individual factors.

Treatment

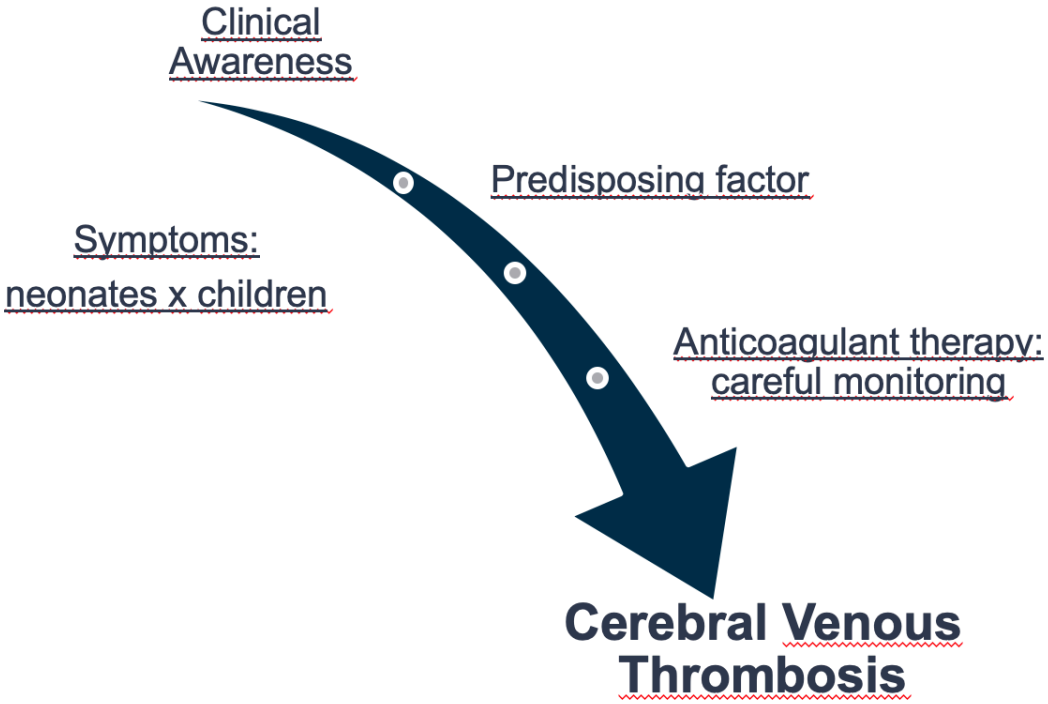
Pre-treatment intracranial hemorrhage: requires more careful consideration

- The pathophysiology of hemorrhage in venous infarction involves venous/capillary hypertension and erythrocyte diapedesis or frank hemorrhage.

- By preventing new thrombus formation, anticoagulation enables unopposed fibrinolysis to dissolve thrombi, relieving venous congestion.

- Therefore, the potential ability of anticoagulant therapy to reduce intracranial hemorrhage caused by severe or persistent thrombosis may balance the risks of anticoagulant therapy dependent bleeding.

Keypoints


Clinical Awareness
Predisposing factor
Symptoms:
neonates x children
Anticoagulant therapy:
careful monitoring
Cerebral Venous Thrombosis

Discussion

References

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