Prevention and Management of post Stroke complications

WHY?
The Stroke is only the start...
Disclosure

• I have no relevant financial interest, arrangements or affiliation with any of the products mentioned during this presentation.

• In relation to this presentation there are no conflicting interests to disclose.
How

- **Prevention:**
  - Pathways, Standard order set, dedicated nursing

- **Diagnosis:** High index of suspicion, raised awareness of common complications

- **Early Treatment:** complication specific and aggressive

- Care and outcome improve with specialized multidisciplinary Stroke Unit
Common – to be avoided!

- Hypoperfusion
- Fever
- Hyperglycemia
- Hypoglycemia
Complications post Stroke

• Neurologically:
  • Recurrent Stroke
  • Seizure

• Infection
  • Urinary tract infection >20%, common
  • Pneumonia 20%, with 25% death in first month

• Complication of immobility:
  • Falls
  • Pressure ulcers

• Thromboembolism

• Psychological:
  • Depression
  • Emotionalism
  • Anxiety
  • Confusion
Mortality

- Week 1: 90% direct related to Infarct
  - Edema, Extension, Rebleed, Herniation

- Week 2-4: Pulmonary embolism & DVT, Infections
  - Risk remains high for 3 months

- Weeks 8-12: Bronchopneumonia, heart disease
Seizures

- Up to 8.6% of all Stroke patients
- Often partial with potential to secondary generalization
- 7.1% inhibitory seizure mimics TIA symptoms
- Early seizures in 3.5% most occurring within 24 hours
- More common in severe disabling stroke, with cortical involvement, and hemorrhagic stroke

Neurology, Jan 31, 2014 Jimming Fan et al
large Multicenter study 10261 patients
Seizures

- Exclude other reasons, determine cause
  - Recurrent stroke, hemorrhagic transformation
  - other underlying brain pathologies

- General causes of seizures to consider:
  - ETOH withdrawal
  - Drugs including, anti-epileptic drug withdrawal
  - Electrolyte imbalance, especially in renal disease
  - Hypocalcemia
  - Hypomagnesemia

- EEG is beneficial in non convulsive seizures for assessment.
Who to treat and How long?

- Early onset seizure recurrence rate 16%
  - But increase in-hospital mortality
- Late onset seizure reoccurrence 50%
  - Promote vascular cognitive impairment
  - Increases disability
- In early onset seizure discontinuation of treatment can be considered after a few months
Treatment:

- Initial: Lorazepam and Dilantin load initially THEN

- Discussion with neurology suggested

- Drugs
  - Classic: Carbamazepine, Ethosuximide, Phenobarbital, Primidone, and Valproic acid
  - newer: Lamotrigine, Levetiracetam (Keppra), Lacosamide (Vimpat), Topiramate (Topamax), Gabapentin, Pregabaline

- No Guidelines! Drug choice guided by medication interaction, patient profile and physician preference
Emotions post Stroke
Psychological complications

- Acute phase:
  - Overt sadness 72%
  - Disinhibition 56%
  - Lack of adaption 44%
  - Environmental withdrawal 40%
  - Crying 27%
  - Anosognosial passitvity 24%

- A third of patients have poor memory or no memory of event
Stroke location and emotional implication

- Strong correlation with aphasia and left insular location: 66% of these develop depression later in chronic stage

- Acute psychosis seen in left PICA Infarct

- Left frontal Stroke, Basal ganglion lesion:
  - Post Stroke depression 40%
  - Anxiety disorder 25%
Summary

- Be proactive!
- Admit to Stroke unit!
- Early recognition and treatment of complications
  - Improve recovery +
  - overall outcome
- The difference between life and death
Thank you for your attention!
References

- De Reuck J, Stroke-related seizures and epilepsy, Neurol Neurochir Pol, 2007; 41: 144–9.