



Epilepsy as a Medical Emergency:

improving urgent & emergency care

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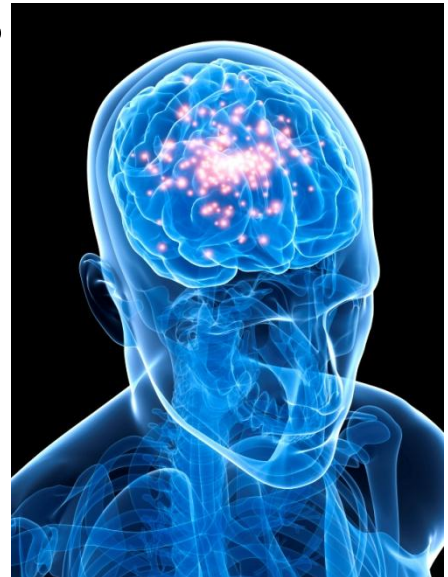
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*The opinions expressed here are my own, and not necessarily those of the LAS

Epilepsy as a medical emergency

- Types of Convulsion
- First Aid
- Prolonged convulsions
- Psychogenic Non-Epileptic Seizures
- LAS treatment
- Conclusions
- The future?





Types

- *Convulsion, seizure, fit* (all the same)
- Epileptic convulsion (generalised, focal, absence)
- Patient with epilepsy ('epileptic'?)
- Provoked convulsion
- Prolonged convulsions (CSE)
- Psychogenic Non-Epileptic Seizure (PNES)
- *Syncope* (faint or cardiac)
- *Eclampsia* (during/after pregnancy)



Types

- Epileptic convulsion
 - A seizure caused by sudden, excessive, disorderly electrical discharge of groups of brain cells
 - Not necessarily caused by epilepsy
- A patient with epilepsy
 - A chronic disorder characterised by a lowered epileptic seizure threshold



Types

- Provoked convulsion
 - **Epileptic** seizures caused by irritation of the brain
 - e.g. Head injury, stroke, alcohol, hypoglycaemia, drug overdose, infection



Types

- Generalised
 - A generalised convulsion involving both sides of the brain
 - Generalised stiffening muscle spasm (tonic), and then rhythmic jerking of the limbs (clonic)
 - Bilateral Tonic-Clonic Seizure (BTCS)



Types

- **Absence**
 - Generalised, awareness suddenly lost, pt blank or unresponsive
- **Focal**
 - Limited to one side of the brain
 - Variable consciousness



First Aid

- Generalised: usually short
 - Under 90 seconds, self limiting, slow recovery
- Protect from harm
 - Clear area, padding, nothing in mouth
- Allow it to resolve
- Call 999 if:
 - 1st seizure, repeated, over 5 minutes, significant injury or still unconscious 10 minutes later



Prolonged convulsions: CSE

- Convulsive Status Epilepticus (CSE)
 - Seizures lasting longer than 5 mins or when seizures occur one after another with no recovery between



Prolonged convulsions: CSE

- During a seizure
 - Insufficient energy production= cell death
- Permanent brain damage or death: CSE
 - Morbidity overall = 3 - 15%
 - Mortality > 1 hr = 32%



CSE Complications

- Longer a seizure persists:
 - Less likely to respond to drugs
 - Higher chance death & long term disability
 - Delays in Tx >30 mins = poorer outcome
- SUDEP
- Fluid lungs
- Aspiration pneumonia



PNES

- Psychogenic Non-Epileptic Seizures (**PNES**)
 - Seizures **not** accompanied by abnormal electrical discharges in the brain
 - Usually an **involuntary** psychological response to distress
 - Associated with recent or historic emotional trauma



PNES

- Psychogenic Non-Epileptic Seizures (**PNES**)
 - Often misdiagnosed with EP (20-30%)
 - Non-epileptic attack disorder, dissociative seizures, functional seizure, conversion disorder, pseudo-seizures
 - 33% of PNES been in ITU
 - 20% of prolonged seizures are PNES
 - 50% of refractory seizures are PNES



PNES

- Differentiation EP v PNES is key
 - Sometimes challenging, not impossible
 - Consistent v fluctuating
 - Synchronised v not
 - Response, eyes, verbal, type of movement
 - If in doubt, treat for CSE



LAS treatment: Patient with Epilepsy

- Assessment
- Convulsion now stopped- 'post ictal'
- Position
- Airway/O₂?
- If recovering- **convey or not convey?**
 - History, support, location, concerns
 - **Are we conveying unnecessarily?**



LAS treatment: CSE

- A,B,C, history, monitoring
- Position, airway, O₂
- Reversible causes? (e.g. blood sugar)
- **Medication** after 5 mins
- Remove to hospital ASAP



LAS treatment: CSE

- Medicines
 - Paramedics:
 - **Diazepam**- rectal or IV (2 doses)
 - LAS concerned re latest JRCALC PR dose
 - Patients own **Midazolam**- buccal (1-2 doses)
 - Advanced Paramedics (critical care):
 - **Midazolam**- buccal, **IM**, IV
 - Emergency Department:
 - Alternatives- Phenytoin, Keppra, anaesthetic



LAS treatment: PNES

- Psychogenic Non-Epileptic Seizures
 - Correct treatment:
 - Sympathy, no medicines (O₂ or others)
 - Family to video?
 - Treat as mental health problem
 - Issues:
 - No training on PNES
 - Misunderstood
 - NHS staff less than sympathetic?



LAS treatment: Focal

- Focal convulsions
 - Rare, paramedics may be uncertain
 - Child treatment, same as CSE
 - **Adult treatment currently unclear**
 - Draft new guidelines explicit
 - APPs have clear guidance
 - APPs have clear guidance, and treat with midazolam



Conclusions

- Conveying too many recovered EP pts?
- Sub optimal care of PNES?
- LAS has not introduced national recommended dose of rectal diazepam?
- Paramedics don't have IM midazolam in UK
- Unclear recommendations for focal convulsions in adults



The future?

- New national adult convulsion guideline out next year, may:
 - Include section on PNES
 - Include IM Midazolam for CSE
 - Include section on focal seizures in adults
- Longer term-
 - APPs- second line medications?

Epilepsy as a medical emergency

