Modern Management of Epilepsy: What the Primary Care Physician really needs to know

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Clinical Challenges

• Diagnosis
  – Main witness is unconscious
  – Eyewitnesses unreliable
  – Unpredictable events

• Education and Counselling
  – Epilepsy has a pervasive influence on lives of patients

• Delivery of care
  – Multiple barriers (social, economic, language, cultural, educational, financial, artificial)
Education - a busy slide

- Epilepsy in general
- Diagnosis and treatment options
- Medication and side effects
- Seizure types, triggers and seizure control
- Management and self-care
- Risk management
- First aid, safety and injury prevention at home and at work
- Psychological issues
- Social security benefits and social services
- Insurance issues
- Education and healthcare at school
- Employment and independent living for adults
- Importance of disclosing epilepsy at work
- Road safety and driving
- Prognosis
- Sudden unexplained death in epilepsy
- Status epilepticus
- Leisure and social issues (including recreational drugs, alcohol, sexual activity and sleep)
- Family planning and pregnancy
- Voluntary organizations
You need an epilepsy specialist nurse!
Jargon - our last defence

- Seizure
- Epilepsy
- Temporal lobe epilepsy
- Complex partial seizure
- Absence
- Grand mal
- Petit mal
Modern diagnosis

Three steps:

- is it epilepsy?
- if so, what kind of epilepsy? (- what syndrome?)
- was it really epilepsy after all?
Syncope

• Convulsive movements common
• Diagnosis depends on common sense
• Lack of post-ictal confusion, hearing people around you before you can respond and recurrence of blackout on regaining upright posture helpful in diagnosis
• Common sense
Micturition syncope

• Micturition involves relaxation, not straining unless you have an enlarged prostate or stricture
• Role of pelvic venous plexus
Distinguish focal epilepsy from idiopathic generalised epilepsy

- Focal seizures start locally and spread
- SPS, CPS, 2°GTCS
- Phenomenology depends on part of brain affected
- Structural brain abnormalities common

- Seizures generalised from outset
- MJ, TA, 1°GTCS
- Genetically determined - brain looks structurally normal
- Much more susceptible to provocation by sleep deprivation, flashing lights, menstruation, alcohol
Treatment depends on type of epilepsy, not type of seizure

- Drugs of first choice for focal epilepsy include phenytoin, carbamazepine (MR), topiramate,

- Drugs of choice for idiopathic generalised epilepsy include valproate (not women of childbearing age), levetiracetam, phenobarbital
Psychogenic seizures
(non-epileptic psychogenic seizures)

- NEPS are common - you are more likely to witness NEPS than an epileptic seizure
  - Prolonged, gradual onset, undulating motor activity with pauses
  - Eyes closed during convulsion; resistance to eye opening
  - Sinusoidal and asynchronous arm and leg movements
  - Prolonged atonia, rhythmic pelvic movements, side-to-side movements of head,
  - Postictal crying, high anxiety in carers
  - Prolonged or unexpectedly sudden recovery
Non epileptic psychogenic seizures - what does not help in the history

- Injury
- Tongue biting
- Incontinence
- Seizures ‘in sleep’
What are PNES?

• Dissociative attacks…
..so how do you make the diagnosis?

• Suspect it!
• Description
  – lacks detail
• Description of seizure changes with time
  – Good documentation
• Unusually frequent, drug-unresponsive seizures, sometimes provoked by stress
• History of somatoform symptoms, multiple surgical procedures
• History of personality disorder, alcohol abuse, self harm, parasuicide, childhood abuse, psychiatric treatment.
• Video the attack..
Case 1

• 54y female patient admitted with brief episodes of collapse at home, occurring several times per day. Sometimes observed to shake briefly with these.

• ECG, 24hr ECG during event, CT, EEG normal

• Loading with phenytoin has no effect on frequency

• Examination reveals mild weakness of left arm with sensory loss.

• Family increasingly agitated about our failure to control these.
Why bother to diagnose NEPS?

- To relieve distress
- To reduce chance of iatrogenic injury
- To save money
- Eminently treatment-responsive

<table>
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<tr>
<th>Measure</th>
<th>Mean (SD) before therapy</th>
<th>Mean (SD) after therapy</th>
<th>Change (multip. SD)</th>
<th>Significance</th>
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<tbody>
<tr>
<td>CORE OM</td>
<td>51.1 (25.7)</td>
<td>40.4 (29.5)</td>
<td>0.4</td>
<td>p=0.003</td>
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<tr>
<td>SF-36</td>
<td>77.0 (17.1)</td>
<td>89.3 (25.0)</td>
<td>0.7</td>
<td>p&lt;0.001</td>
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<tr>
<td>PHQ-15 (Symptoms)</td>
<td>13.8 (5.5) (9.1)</td>
<td>11.6 (6.2) (7.9)</td>
<td>0.7</td>
<td>p=0.001 (p=0.08)</td>
</tr>
</tbody>
</table>
Modern investigation

- ECG (1924)
- EEG (1920)
- (CT with contrast)
- MRI
Common misconception

- Your EEG shows you have epilepsy
EEG
Modern Management - drugs

• Depends on diagnosis
• Tailored to the individual
  – Age, sex, seizure frequency and severity, personal preference, concomitant medication, weight, etc.
• Decision on medication is always a balance of risk and benefit
Modern Management - what do you have to know

• Monitoring requirements
  – Don’t do blood tests
  – If you do blood tests, don’t act on them
  – Monitor the old drugs clinically

• When and how to start medication before patient has seen specialist
  – What to say to the patient

• How to use the common drugs
  – Titration to tolerance

• How to get expert help

• All that shakes is not epilepsy!
  – Be prepared to revise the diagnosis
Which drugs should I start?

- Epilepsy-dependent (not seizure-type dependent)
- NICE guidelines suggest the choice is between carbamazepine, lamotrigine, sodium valproate, topiramate and oxcarbazepine, but would you be happy doing this?
- NOT VALPROATE IN WOMEN OF CHILDBEARING AGE!
Case 2

- 22y woman consults you after 2nd nocturnal GTCS without warning followed by post ictal confusion, within 6 weeks. CT head normal after first fit. Has made uneventful recovery
  - What do you recommend, and why?
  - What are the implications for contraception and pregnancy?
Risks of AEDs in pregnancy

• What are major congenital abnormalities?
• What is their background incidence?
• What is the excess risk if taking AEDs?
• What is the role of folic acid supplementation?
... what about contraception?

• Which AEDs influence the effectiveness of oral contraceptive drugs?
  – Carbamazepine, phenytoin, oxcarbazepine, phenobarbital, primidone, topiramate, (lamotrigine), clonazepam and clobazam
  – Don’t forget these effect morning-after pill too!
Case 3

• Patient with poorly controlled epilepsy admitted for minor surgery for three days. On return home complains of dizziness and starts vomiting 24 hours after admission.

• Usually taking carbamazepine MR 1200mg daily in divided doses.
  – What do you check and do?
Case 4

• 55y man with reasonably controlled focal epilepsy attends A&E after a prolonged seizure in the street. He remains confused after a few hours and is admitted overnight. CT head normal. After discharge your receptionist reports a telephone message informing you that his phenytoin level was 27mmol/l (10-20). He usually takes 400mg of the drug daily
  – What should you and should you not do?
• Phenytoin half life 7-42 hrs
• Equilibrium 4 weeks
What would you do with the following?

• Patient on carbamazepine with following blood tests
  – Na 128, K 3.9, Urea 4.4 Creat 68, Total protein 66, Albumen 40, bilirubin 15, Alk Phos 212, ALT 90, gamma GT 252

• Patient on sodium valproate who tells you she has just discovered she is pregnant

• Patient on lamotrigine who wants contraceptive advice

• Patient with single blackout who wants to drive

• Patient on phenobarbital who has been seizure-free for 30 years.
Conclusion

• Diagnosis and management of epilepsy and non-epileptic seizures is challenging and complex
• Treatment decisions can have lasting positive and negative outcomes
• Involve the experts early