Seizures

Presenter: Dr. Milta Little
Disclosure Statement: I have nothing to disclose.

Objectives: By the end of the session, participants will be able to…

- List the prevalence and incidence of seizures in older adults
- List the common underlying causes of seizure
- Describe nonconvulsive features of seizures in older adults
- List and describe the most commonly used antiepileptic drugs (AEDs), along with expected benefits and adverse effects

Expected Outcomes (Desired change in practice):

- Increase confidence in diagnosing seizure disorders in older adults
- Identify adverse drug reactions (ADR) related to AEDs
- Effectively manage seizure disorders in nursing facilities

Article for Review:

- Sen A, Jette N, Husain M, and Sander JW. Epilepsy in Older People. Lancet 2020; 395:735-48.

Additional resource: AMDA LTC Physician Information Tool Kit Series: Seizures in the LTC Setting

Outline for Rapid Fire session

1. Case presentation: Seizure

   Mr. SS is a 73 y/o male LTC resident with h/o HTN, depression, generalized OA, failed back surgery, vascular dementia, and a CVA 3 years ago with residual left sided weakness. His wife stops you in the hall of the facility concerned because he seems to be more confused recently. She has also noticed times when his left arm will shake with a tremor and she is worried that he may have Parkinson's. When questioned, the aids report that he has had periods where he is "out of it and won't respond for a minute, but then he comes back to himself. Sometimes he's more confused for awhile but he always snaps out of it." The staff have no other concerns. His weight and VS have remained stable over the last 6 months.

2. Incidence and prevalence of seizure disorders in older adults and NH
   a. Epilepsy is the 3rd most common neurologic disorder in >65 y/o (after stroke and dementia) with a bimodal distribution with age
   b. NH residents have point prevalence of >7.5%
   c. Bidirectional risk of seizures and cognitive impairment so *screen*!

3. Nonconvulsive features of seizures
    a. More commonly partial complex or nonconvulsive generalized in older versus younger adults
    b. Consider seizure in unexplained falls and/or transient confusion

TABLE 2. Features of Partial Seizures

- Altered mental status (e.g., disorientation, lapse of consciousness, memory disturbance, "tuning out," unexplained confusion, unresponsive staring into the distance)
- Chewing
- Disrobing
- Dizziness
- Falling
- Fear
- Incontinence
- Language difficulties
- Lip smacking
- Physical injuries (e.g., bruises, cuts, falls, fractures, tongue-biting)
- Staring
- Swallowing
- Temporary paralysis

TABLE 3. Some Features of the Postictal State[8]

- Confusion
- Disorientation
- Falling
- Headache
- Hyperactivity
- Incontinence
- Language difficulties
- Temporary paralysis
- Wandering

4. Causes and diagnosis of seizure disorders
    a. Cerebrovascular disease is the most common cause of older adult seizures
    b. r/o hyponatremia, alcohol, meds (see below), TBI, meningitis, tumor
    c. Need a good description of the events – is video a possibility?
    d. Prolonged EEG should be considered
    e. Basic blood work and brain imaging are always part of the work-up

5. Medication management (Article table is a good reference)
    a. General principles
        i. Older adults more likely to respond to AEDs but are also more likely to experience an ADR
        ii. Initial dose and rate of titration of AEDs is half typical starting dose
    b. Highest yield medications (best efficacy with lowest ADR and cognitive risk)
        i. Levetiracetam – few drug-drug interactions; may affect mood
        ii. Lamotrigine – mood stabilizer; rash, insomnia, nightmares, tremor
    c. Medications to avoid
        i. AEDs
            1. Carbamazepine – falls, drug-drug interactions, osteoporosis, hyperlipidemia, cognitive decline (very poorly tolerated)
            2. Phenytoin – cognitive and mood decline, narrow therapeutic window, drug-drug interactions, hyperlipidemia, falls, osteoporosis
        ii. Medications that lower seizure threshold

TABLE 1. Medications That May Be Associated With Lowered Seizure Threshold[7,8]

Antibiotics (especially quinolones and imipenem)
Anticholinesterases
Antidepressants (especially tricyclics and bupropion particularly at higher doses)
Aminophylline/theophylline
Antipsychotics
Baclofen
Cyclosporine
Hypoglycemic agents causing hypoglycemia
Levodopa
Opioid analgesics (especially fentanyl and meperidine)
Tramadol

6. Seizure care pathway

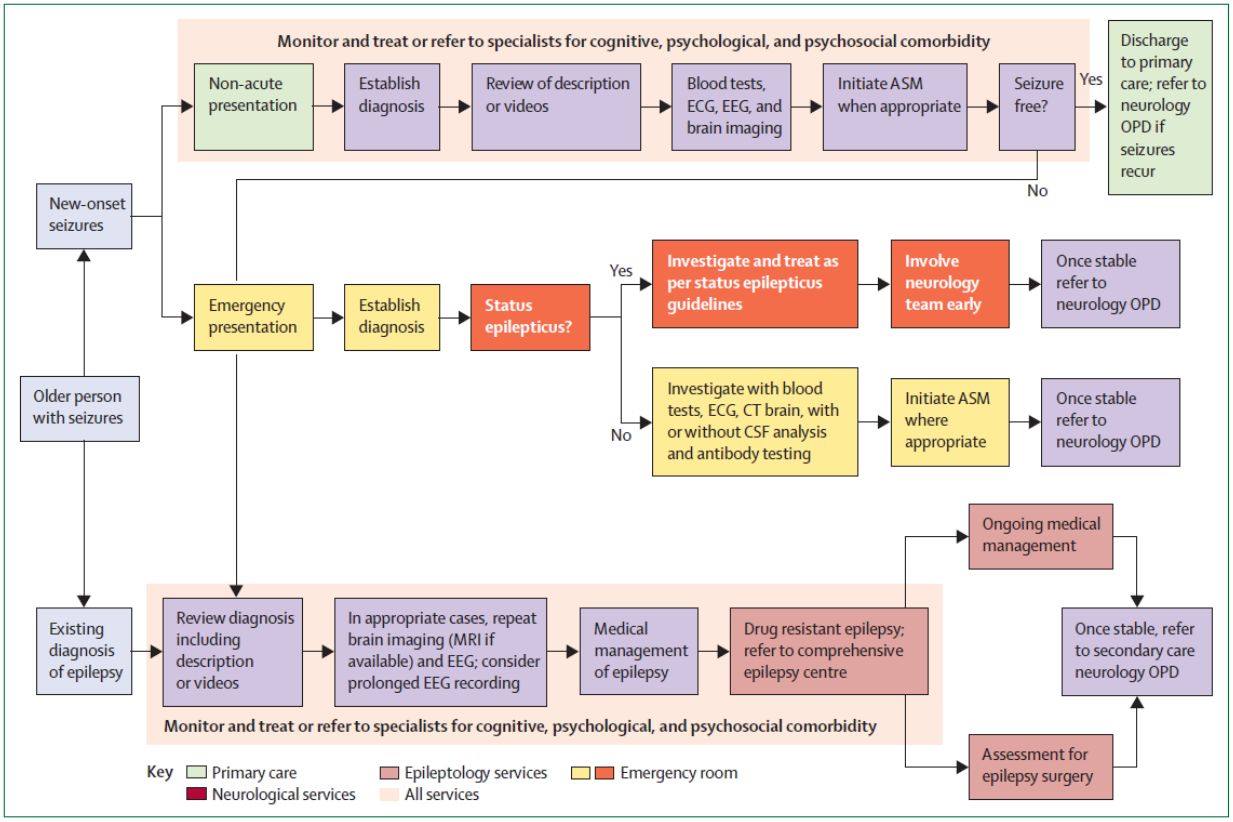

Figure 5: **Optimising care pathways for epilepsy in older people**
Delivering best practice to older people with epilepsy requires a multidisciplinary and, at times, an iterative approach. ASM=antiseizure medication. CSF=cerebrospinal fluid. ECG=electrocardiogram. EEG=electroencephalogram. OPD=outpatient department.