Acetylcholinesterase Inhibitors with a Geriatric Focus

Lead as a 12-15 minute group discussion with active participation from the trainees. Used a white board to write to add visual learning component.

Objectives

1. Identify appropriate patients for acetylcholinesterase inhibitor therapy.
2. Understand adverse effects of acetylcholinesterase inhibitors in older patients.
3. Apply acetylcholinesterase inhibitors pearls of prescribing to clinic patients.
4. Know when it is appropriate to discontinue acetylcholinesterase inhibitor therapy.

Guidelines for Pharmacological Intervention

- Effective in mild to severe Alzheimer's Disease
- No therapy has been shown to stop or reverse the progression of Alzheimer's Disease

Teaching Pearls for Acetylcholinesterase Inhibitors

Specific Drug	Half-life	Dosing	Dosing Adjustments
Donepezil	70h	Tablet – 5mg QD x 4-6 wks – Target 10mg QD – Max 23mg after 3 mo*	
Rivastigmine**	1.5h; brain ~8h	Capsule – 1.5 mg BID x 2 wks – Increase by 1.5mg every 2 weeks – Max 6mg/day Patch – 4.6mg/day x 4 wks – Increase every 4 weeks – Max of 13.3mg/day	No dosage adjustment for mild to moderate hepatic impairment. No data for use in severe hepatic impairment. No dosage adjustment for renal impairment.
Galantamine	7h	Immediate release – 4mg BID x 4 wks Extended release – 8mg QD x 4 wks Increase by 8mg every 4 weeks Target 24mg/day	Interruptions >3 days = restart titration Max 16mg/day in moderate renal or hepatic impairment. Not recommended in severe renal or hepatic impairment.

*This dosing is not endorsed by the VA

** Rivastigmine capsules are non-formulary at the VA; rivastigmine patch is restricted to patients who cannot swallow

Acetylcholinesterase Inhibitor Class Side Effects

- Gastrointestinal
  - Abdominal pain, diarrhea, nausea/vomiting, weight loss
  - GI side effects may resolve in a few months
- Headache

- Somnolence
- Insomnia
- Abnormal vivid dreams
- GI bleed (may be a relative contraindication in patients with PUD)
    - Due to increased acid in the stomach
- Increased urination
- Bradycardia (may be a relative contraindication)
    - Dose limiting

Discontinuing Acetylcholinesterase Inhibitors

- Consider discontinuation if:
    - No response to therapy within 3 months
    - Patients who are institutionalized with severe dementia and have been receiving treatment for at least 2 years
    - Patients are no longer tolerating adverse effects
    - Patient and/or family believe patient is no longer responding to therapy
    - Dementia has progressed to a point where slowing the progression is no longer a reasonable goal
- Acetylcholinesterase inhibitor should be tapered over 2-4 weeks
    - Monitor patient for 1-3 months following discontinuation
- Re-initiate therapy if symptoms worsen acutely

References

1. Bemben, N. M. (2016). "Deprescribing: An Application to Medication Management in Older Adults." Pharmacotherapy (in press).
2. Umegaki, H., et al. (2008). "Discontinuation of donepezil for the treatment of Alzheimer's disease in geriatric practice." Int Psychogeriatr **20**(4): 800-806.
3. Hogan, D. B. (2014). "Long-term efficacy and toxicity of cholinesterase inhibitors in the treatment of Alzheimer disease." Can J Psychiatry **59**(12): 618-623.
4. Frankfort, S. V., et al. (2005). "Discontinuation of rivastigmine in routine clinical practice." Int J Geriatr Psychiatry **20**(12): 1167-1171.