



MEMORY DRUGS

Top tips for MURs

- Counsel patient or carer on the need to take their medication regularly and not to stop suddenly
- Check patient or carers understanding of what these drugs are being taken for ensuring that they realise that they are not going to cure the dementia and do not help everyone
- Check patient or carer is able to comply with taking the medication
- Check patient is having an annual physical health check with GP
- Check if there are ways to simplify medication regime or alter timings of doses to coincide with carer visit
- Stress the importance of attending memory clinic reviews to assess efficacy of treatment as well as overall review
- Check for signs of mental/behavioural deterioration and sign post to memory clinic if there are any concerns
- Counsel patient on signs and symptoms of complications that need referral (**see red flags below**)
- Counsel patient on common side effects and encourage persistence with side effects of medication if they are mild as they should subside within 2 weeks (**see overleaf**)
- Signpost to local services for carer support. Information can be obtained from your local memory service or Alzheimer's Society.
- Report any relevant adverse drug reactions to the Yellow Card Scheme

What are they used for?

Dementia is an umbrella term used to describe a syndrome where there is progressive impairment of cognitive function and activities of daily living¹. Alzheimer's disease is the commonest cause of dementia where the brain is progressively damaged by the formation of amyloid plaques and neurofibrillary tangles leading to a loss of various neurotransmitters like acetylcholine, noradrenaline, dopamine, serotonin, glutamate and gamma aminobutyric acid.

Two types of memory medications are currently licensed for use in certain types of dementia, acetylcholinesterase inhibitors, licensed for treating cognitive symptoms of mild to moderate dementia in Alzheimer's disease and glutamate receptor antagonists, licensed for use in severe dementia of Alzheimer's type or in moderate dementia for cognitive symptoms where acetylcholinesterase inhibitors are not tolerated or in patients whom non-cognitive / behavioural symptoms predominate. The acetylcholinesterase inhibitors are not licensed for use in other types of dementia apart from rivastigmine which is also licensed for use in dementia with parkinson's disease.

Lifestyle issues

- Counsel patient on limiting alcohol intake – avoiding if possible
- Counsel patient on healthy eating, exercise & weight loss (if BMI > 25kg/m²) - reduce saturated fat and salt intake, avoid salt substitutes, increase oily fish intake, complete 30 minutes of aerobic exercise three to five times a week, reduce caffeine intake to no more than 5 cups a day and recommend 5 portions of fruit and vegetables a day
- Advise patients who smoke of the benefits of stopping smoking and how to access enhanced smoking cessation services in community pharmacy and GP practices (as cardiovascular risks should be minimised & the brain benefits from improved circulation almost immediately when smoking is discontinued)

How do antipsychotic drugs work?

Acetylcholinesterase inhibitors (donepezil, galantamine, rivastigmine)	They inhibit the acetylcholinesterase enzyme which breaks down acetylcholine in the brain resulting in an increased presence of acetylcholine, mainly in the brain, which is important as it is critical to normal memory and cognitive functions. There is no difference in efficacy between them, but donepezil is a convenient once daily dose and usually tolerated better than the other tablets.
Glutamate receptor antagonist (memantine)	Blocks the N-methyl D-Aspartate (NMDA) receptor which becomes overloaded in dementia. This results in a reduction of calcium into the cells which results in toxicity and cell death.

Red flags that need referral

- Reported worsening of asthma or COPD
- Severe nausea and vomiting/diarrhoea/weight loss relating to medication
- Palpitations, cramps, bradycardia
- Unable to comply with medication/signs of non-compliance



What are the common side effects to look out for?

Drug	Common side effects	Recommendation
Acetylcholinesterase inhibitors	Headache, dizziness, nausea, vomiting, diarrhoea & muscle cramps - commonly experienced	Try altering timing with regard to food. Advise patient that mild symptoms usually subside within two weeks. Refer to prescriber if sustained for consideration of a slower titration of medication or lowering dose.
	Fatigue and insomnia – commonly experienced	Try taking medication earlier in the day.
	Palpitations, tinnitus, leg cramps & dysphagia – less commonly experienced	Refer to prescriber.
Memantine	Constipation - commonly experienced	Encourage fluid and fibre in diet and recommend a laxative.
	Hypertension and dizziness - commonly experienced	Monitor blood pressure & refer to prescriber if necessary.
	Headache - commonly experienced	Consider a short course of paracetamol.
	Drowsiness - commonly experienced	Try taking medication later in the day or at bedtime.
	Abnormal gait, vomiting, thrombosis, confusion, fatigue, hallucinations, worsening symptoms and heart failure – less commonly experienced	Refer to prescriber for a review and possible discontinuation of drug.

Potential serious drug interactions? - See BNF Appendix1: Interactions for more details

Acetylcholinesterases (AChEI)

- Have few clinically significant interactions but donepezil and galantamine levels may be increased by CYP2D6 (paroxetine, fluoxetine & quinidine) and CYP3A4 inhibitors (ketoconazole, erythromycin & ritonavir). Likewise levels may be reduced by the same enzyme inducers
- Anticholinergics that cross the blood brain barrier e.g. oxybutinin may reduce the efficacy of the AChEI and should be avoided
- Beta blockers and digoxin may cause bradycardia when given together with AChEI and caution should be exercised
- NSAIDs, aspirin and selective serotonin reuptake inhibitors (SSRIs) may potentially increase the risk of gastric irritation and gastroprotection should be considered if combinations are required

Memantine

- May interact with warfarin and increase INR so close monitoring advised
- The effect of levodopa or anticholinergics may be enhanced and doses may need to be adjusted. The effects of antipsychotics may be reduced by memantine
- Increased risk of CNS toxicity when concomitant use of NMDA antagonists (amantadine, ketamine & dextromethorphan) and should be avoided

Where can you find more information?

- Drugs for dementia – BNF sub-section 4.11
- Distance learning pack “The pharmaceutical care of people with dementia” found on the WCPPE website (<http://www.wcppe.org.uk>)
- NICE guidance: Dementia: supporting people with dementia and their carers in health and social care CG42: Donepezil, galantamine, rivastigmine and memantine for the treatment of Alzheimer’s disease TA217 which can be found on NICE website (www.nice.org.uk)
- Mental health and Medication Wales <http://www.choiceandmedication.org/ncmh/>
- Alzheimer’s Society website www.alzheimers.org.uk

References

1. *The pharmaceutical care of people with dementia*, NHS education for Scotland, 2014