

Monitoring in high level care

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This is the tenth article in the series on general practice prescribing.

BACKGROUND Prescribing for elderly patients in nursing homes is an area where appropriate patient monitoring is poorly managed.

OBJECTIVE This article discusses the use of some commonly prescribed medications in elderly nursing home residents and how these medications should be monitored.

DISCUSSION Many of the medications prescribed to nursing home residents may be appropriately prescribed initially, but their continuing prescription may be inappropriate in the setting of lack of effect and adverse reactions. It is important to appreciate that the response rate to many of the commonly prescribed medications such as tricyclic antidepressants, selective serotonin reuptake inhibitors, anticholinergics and antipsychotics, is limited in this population of patients and that they also have quite a significant potential for toxicity. Therefore, monitoring for the effects of therapy, as well as any potential adverse effects, is important to ensure the ongoing appropriateness of such prescriptions.

In the last issue of AFP, we discussed the importance of monitoring the effects of the prescription in enhancing the effectiveness of therapy. In this issue we will concentrate on a common situation where monitoring frequently does not occur: prescription for the elderly in nursing homes.

Case history – Rose

Rose is a 78 year old nursing home resident. She has a past history including moderate severity dementia and osteoarthritis. She does not mobilise well, requires assistance with showering and dressing herself, and is frequently confused. The staff at the nursing home contact you because she is sleeping poorly at night, trying to get up and is frequently screaming and causing a

disturbance. They feel it is because of her urinary incontinence and that she wants to get to the toilet by herself and can't. Her daughter rings you at the surgery to say that she is concerned about her mother and that she feels her mother is getting depressed at her condition in the nursing home. Upon your review of Rose you cannot find any immediately reversible cause for her agitation such as a urinary tract infection, constipation or other simple explanation.

There would be many different approaches to the management of Rose's condition. Some general practitioners may consider that her problem is due to incontinence, others may consider that she has a behavioural disorder associated

with her dementia, while others may treat her insomnia or her depression. Let's look at each of these in turn.

Urinary incontinence

Urinary incontinence is a common problem in nursing homes and is sometimes associated with behavioural problems in demented patients. There is some suggestion of the benefit for prompted voiding,¹ and bladder training² but these may not be possible in more severely demented patients. Frequently, pharmacological therapy is used, usually consisting of an anticholinergic such as oxybutynin (Ditropan), or tolterodine (Detrusitol), as well as tricyclic antidepressants. Although the prescription of these agents may be appropriate, it is important to appreciate that they are associated with

limited efficacy and considerable toxicity in elderly nursing home patients. A Cochrane review of the use of anticholinergics in the treatment of overactive bladder syndrome in adults concluded that the benefit of therapy was one less episode of incontinence per 48 hours. Different patients may have different levels of response, as discussed in the October issue of AFP, and the usefulness of this reduction would also vary for different individuals. However, in many nursing home patients with frequent episodes of incontinence, such a reduction may not make a meaningful clinical difference.

Anticholinergic drugs are associated with significant toxicity in the elderly. The more benign end of the spectrum is dry mouth and blurred vision. They can also cause or exacerbate constipation or reflux symptoms which are common problems in elderly nursing home residents. Of greater concern is that they can lead to further cognitive impairment, such as confusion, delirium, or severe cognitive decline.³ Hence, treatment with an anticholinergic in a patient such as Rose may be associated with some improvement of her incontinence at the risk of severe cognitive adverse effects. This is not to say that an anticholinergic should not be prescribed if Rose is thought to have urge incontinence. What this does mean however, is that she should not be prescribed it without follow up to ensure that if she is not getting benefit, or is suffering from an adverse effect, the prescription is altered or the medication ceased.

Sleep disturbance

Another issue that frequently arises in nursing home patients such as Rose is sleep disturbance. It is a fact that as we age we need less sleep,⁴ and the issue of insomnia is very contextual. For example if a university professor has difficulty sleeping and paced around at night thinking and mulling things over, they are a brilliant, hard working academic and this results in envy in his colleagues that he needs so little sleep to

Table 1. Effects of low dose tricyclic antidepressants and appropriate monitoring

Effect	Adverse reaction	Monitoring
Anticholinergic	Dry mouth	Oral intake
	Blurred vision	
	Constipation	Bowel chart
	Urinary retention	Urine chart
	Increased intraocular pressure	
	Exacerbation of reflux disease	
	Confusion	
	Cognitive decline	Minimal state examination
Alpha blockade	Palpitations, tachycardia	Pulse rate or ECG
Antihistamine	Postural hypotension	Lying and standing blood pressures
		Incidence of falls
Cardiac	Sedation	
	Weight gain	Weight chart
Central nervous system	QT prolongation	ECG
	AV conduction effects	ECG
Endocrine	Seizures	
Endocrine	Syndromes of inappropriate antidiuretic hormone secretion (SIADH)	? Na ⁺ monitoring

get his work done. The same behaviour in a nursing home patient is seen as agitated wandering and results in a haloperidol prescription.

Nonpharmacological treatments such as cognitive behavioural therapy (CBT)⁵ and physical exercise⁶ have been shown to be effective for the management of insomnia in elderly patients, but frankly, if you tried to re-educate all of the nursing staff who ring you from nursing homes about patients who can't sleep, then tried to organise a psychologist to see them for CBT, or suggested the Jane Fonda workout video, you would be the one prescribed haloperidol! So not surprisingly many clinicians prescribe sedatives for this common problem, and because of the concerns about long term use of benzodiazepines, many are now using low dose tricyclic antidepressants or major tranquillisers such as chlorpro-

mazine or pericyazine.

Table 1 lists the potential adverse reactions to low dose tricyclic antidepressants and the monitoring that could be carried out in order to detect these effects. Frequently when GPs are asked about the use of low dose antidepressants for nocturnal sedation, their response is that the medication appears to help, and is certainly causing no harm, so why cease it? As can be seen from Table 1 most of us do not monitor for all of the potential harms associated with such therapy. Low dose major tranquillisers share many of the adverse reactions of tricyclic antidepressants.

Agitation

Another approach to the management of Rose might be to treat her nocturnal agitation with an antipsychotic such as low dose haloperidol or even risperidone or olanzapine. Despite the fact that this is a

very common practice in nursing home patients, the evidence for benefit is, once again, quite limited. The evidence is that haloperidol is beneficial for aggression but not for agitation *per se*.⁷ There have been only limited randomised trials assessing the use of the newer atypical agents.^{8,9} These studies show that the response rate with placebo in these conditions is approximately 35–45% and increases to 55–60% with treatment. What this means is that with good nursing care about a third of patients will have a clinically significant improvement, about another 40–45% will not respond regardless of the drug treatment, and it is only 15–20% of patients who would not have responded to placebo that in fact benefit from drug therapy. So out of all the patients treated with antipsychotics for the management of psychotic or behavioural symptoms in dementia, one in five will have a response to drug therapy. The role of monitoring is to determine which patient has responded, and to alter the dose in order to achieve a response in the others. If there is no response, then the medication should be ceased. Note also that some 'responders' may simply be responding to the placebo effect of the medication. In many cases, the benefit of the drug outweighs the need to cease the medication and restart again, and the dose may simply be continued.

Depression

The final approach to Rose's problem might be to treat her depression with a selective serotonin reuptake inhibitor (SSRI). Commonly patients in whom the diagnosis of depression is difficult, and who may have atypical presentations such as memory impairment, anorexia or fatigue, are treated with a therapeutic trial of SSRIs. This approach is certainly a valid one, however, it is important to appreciate that the response rate to SSRIs in patients with depression is not 100% and that placebo itself has a substantial effect. The response to any SSRI is approximately 60–70%,¹⁰ but this

response rate is considerably lower in elderly patients. A recent large study found a response rate of 45% in SSRI treated patients and 35% for placebo.¹¹ Another large study in late life depression found a response rate of 19% with usual care (ie. use of antidepressants and GP visits) and 45% with collaborative care management. This included access for up to 12 months to a depression care manager who was supervised by a psychiatrist and who offered education, care management, and support of antidepressant management by the patient's GP or a brief psychotherapy for depression.¹² The latter scenario is clearly unlikely to be replicated in most nursing homes.

Once again the perception by many GPs is that although it is difficult to tell if the SSRI is beneficial, there is little harm associated with it, hence they are reluctant to cease such medications once they are prescribed. Unfortunately this perception is not correct as the SSRIs are not as benign as they were once thought to be. Apart from the initial nausea, vomiting, diarrhoea or headache that can occur in about a third of patients, they have also been found to be associated with other serious toxicity. Recent studies have found that SSRIs increase the risk of serious upper gastrointestinal bleeding by about three times,^{13,14} and this rate increases to 12–15 times the normal rate in combination with NSAIDs, and to 5–7 times the normal rate in combination with low dose aspirin! A serious concern given the numbers of patients on those combinations. Selective serotonin reuptake inhibitors have also been found to increase the likelihood of significant hyponatraemia by 3.5–5.0 times, with an overall incidence of about one in 200 patients.^{15–17} Older and lighter patients appear to be at higher risk.¹⁵

Conclusion

Many of the medications prescribed to nursing home residents may be appropriately prescribed initially, but their continuing prescription may be inappropriate

in the setting of lack of effect and adverse reactions. We are not saying don't try prescribing things in this difficult patient group, just remember that it is a trial. It is important to appreciate that the response rate to many of the commonly prescribed medications such as tricyclic antidepressants, SSRIs, anticholinergics, and antipsychotics is limited in this population of patients and they all have quite significant toxicity. The only way of ensuring appropriate prescribing is to monitor the patient for the desired effect as well as adverse effects of the medication and to alter the prescription accordingly. Most importantly, the GP should feel less hesitant to cease one of the discussed medications than to continue prescribing it.

Conflict of interest: none declared.

References

1. Eustice S, Roe B, Paterson J. Prompted voiding for the management of urinary incontinence in adults (Cochrane Review). In: The Cochrane Library, Issue 3. Oxford: Update Software, 2003.
2. Roe B, Williams K, Palmer M. Bladder training for urinary incontinence in adults (Cochrane Review). In: The Cochrane Library, Issue 3. Oxford: Update Software, 2003.
3. Tune L E. Anticholinergic effects of medication in elderly patients. *J Clin Psychiatry* 2001; 62(Suppl 22):11–14.
4. Brabbins C J, Dewey M E, Copeland J R, et al. Insomnia in the elderly: Prevalence, gender differences and relationships with morbidity and mortality. *Int J Geriatr Psychiatry* 1993; 8(6):473–480.
5. Montgomery P, Dennis J. Cognitive behavioural interventions for sleep problems in adults aged 60+ (Cochrane Review). In: The Cochrane Library, Issue 1. Oxford: Update Software; 2003.
6. Montgomery P, Dennis J. Physical exercise for sleep problems in adults aged 60+ (Cochrane Review). In: The Cochrane Library, Issue 3. Oxford: Update Software, 2003.
7. Lonergan E, Luxenberg J, Colford J. Haloperidol for agitation in dementia (Cochrane Review). In: The Cochrane Library, Issue 3. Oxford: Update Software, 2003.
8. Street J S, Clark W S, Gannon K S, et al. Olanzapine treatment of psychotic and behavioral symptoms in patients with Alzheimer disease in nursing care facilities: A double blind, randomised, placebo controlled trial. *Arch Gen Psychiatry* 2000; 57(10):968–976.
9. De Deyn P P, Rabheru K, Rasmussen A,

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- et al. A randomised trial of risperidone, placebo, and haloperidol for behavioral symptoms of dementia. *Neurology* 1999; 53(5):946-955.
10. Simon G. Choosing a first line antidepressant: Equal on average does not mean equal for everyone. *J Am Med Assoc* 2001; 286(23):3003-3004.
11. Schneider L S, Nelson J C, Clary C M, et al. An 8 week multicenter, parallel group, double blind, placebo controlled study of sertraline in elderly outpatients with major depression. *Am J Psychiatry* 2003; 160(7):1277-1285.
12. Unutzer J, Katon W, Callahan C M, et al. Collaborative care management of late life depression in the primary care setting: A randomised controlled trial. *JAMA* 2002; 288(22):2836-2845.
13. De Abajo F J, Alberto L, Rodriguez G, Montero D. Association between selective serotonin reuptake inhibitors and upper gastrointestinal bleeding: Population based case control study. *BMJ* 1999; 319(7217):1106-1109.
14. Dalton S O, Johansen C, Mellemkjaer L, Norgard B, Sorensen H T, Olsen J H. Use of selective serotonin reuptake inhibitors and risk of upper gastrointestinal tract bleeding: A population based cohort study. *Arch Intern Med* 2003; 163(1):59-64.
15. Wilkinson T J, Begg E J, Winter A C, Sainsbury R. Incidence and risk factors for hyponatraemia following treatment with fluoxetine or paroxetine in elderly people. *Br J Clin Pharmacol* 1999; 47(2):211-217.
16. Kirby D, Harrigan S, Ames D. Hyponatraemia in elderly psychiatric patients treated with selective serotonin reuptake inhibitors and venlafaxine: A retrospective controlled study in an inpatient unit. *Int J Geriatr Psychiatry* 2002; 17(3):231-237.
17. Movig K L L, Leufkens H G M, Lenderink A W, Egberts A C G. Serotonergic antidepressants associated with an increased risk for hyponatraemia in the elderly. *Eur J Clin Pharmacol* 2002; 58(2):143-148.

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AMH Drug Choice Companion: Aged Care

Australian Medicines Handbook, 2003
Soft cover, 218 pages, \$50.00

Quality prescribing, as we have seen from Dr Shakib's excellent series in *Australian Family Physician* this year, is a complex task. Prescribing for the elderly, either in nursing homes or in the community, adds a considerable degree of difficulty. Comorbidity, drug interactions, the impact of impaired renal and hepatic function, effect on cognition, risk of falls, narrowed therapeutic range and the difficulties of monitoring all need to be considered.

That is where the new pocket guide: 'Australian Medicines Handbook Drug Choice Companion: Aged Care' will prove invaluable. This is a topic based, well laid out book, providing practical information on drug treatments for a range of common conditions. Drug

choices are ranked as first line/other options, and options are given for varying stages of severity of illness. Sections under each topic include patient education, monitoring requirements, safety considerations, interactions, evidence and practice points (covering background information, useful advice and comments when evidence and practice may vary).

Australian Medicines Handbook Drug Choice Companion: Aged Care, is designed to be a pocket guide for practitioners caring for patients in nursing homes. It would be equally useful for home visits, when conducting medication reviews, care plans or as a quick office reference when initiating or monitoring therapy in elderly patients.

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