Managing polypharmacy problems in the elderly

Cathy Cullen and Diarmuid O’Shea provide a case study which gives some pointers on dealing with the problem of polypharmacy in elderly patients

THE PROBLEM OF POLYPHARMACY can be a thorny one for the general practitioner. The following is a summary of a workshop on polypharmacy problems in the elderly which took place at the annual St Vincent’s University Hospital study day.

Case study
An 88-year-old lady, who lives alone and mobilises with a stick, presents for a routine visit. Examination is unremarkable with BP of 130/80 and a pulse rate of 82/min in atrial fibrillation. Her medications are: perindopril 2mg daily, bisopropol 2.5mg daily, frusemide 40mg daily, digoxin 0.125mg daily, warfarin 5mg daily, and alendronate 70mg weekly.

Facts
• Ten per cent of patients on medication have an absolute contraindication for that medication, usually due to other comorbidities
• Up to 50% of patients on medication for chronic disease do not take them regularly, on review two years later
• An elderly patient on more than four regular medications has a significant increased risk of falls
• Biological age rather than chronological age should be considered if using long-term preventative drugs, eg. bis-phosphonates
• Any patient who is on warfarin at their first visit should have the reason for warfarinisation reviewed. Lone A Fib has an 12% risk of CVA per annum. Each extra risk factor increases that risk, such as ischaemic heart disease, diabetes, hypertension or poor left ventricular function
• Warfarin in atrial fibrillation reduces the risk of a cerebrovascular accident by 66%; aspirin alone reduces the risk by 33%. There are obviously many other problems with warfarinisation which need to be taken into consideration such as regular blood checks, the many potential drug interactions and the risk of a bleed. If relative contraindications to warfarin exist (compliance issues, falls etc), then involving the patient in the decision-making process if they have the capacity is important, ie. clear explanation of risk and benefit.

Week 1
She presents with increasing shortness of breath and exam reveals ankle oedema and bibasal crepitations. You correctly diagnose an exacerbation of congestive cardiac failure (CCF). What do you do next?
• Do a baseline urea and electrolytes. This should be repeated approximately two weeks after any dose of ACE inhibitor or diuretic. A rise of more than 20% upon adding an ACE inhibitor is reason to stop and review the need for the ACE inhibitor
• Review her drugs again. She has been taking Nurofen (ibuprofen) 200mg TDS for aches and pains as an OTC preparation. Stop this, as it is a common cause for increased CCF. She could use paracetamol quite safely instead. Low dose transdermal patches (seven day patch), of a drug such as buprenorphine, can be considered for the elderly who require analgesia and have difficulty tolerating NSAIDs
• β-blockers are safe in the setting of stable chronic heart failure, in the setting of an acute exacerbation of the heart failure they will need to be reviewed
• Increase her ACE or diuretic. Advise her on monitoring her weight if you chose the diuretic route
• Arrange a review within a few days, looking for possible problems with the change in drugs. These include postural hypotension. It is a good idea to measure a sitting and standing blood pressure, as an asymptomatic drop of 20mmHg in the systolic value can become a problem with increased drugs
• With the introduction of increased diuretics you can precipitate altered renal function resulting in an increase in creatinine levels, decreased creatinine clearance, and as a result a decreased excretion of digoxin and thus a rise in digoxin levels leading to digoxin toxicity. Occasional monitoring of digoxin levels may be important.
Week 3
Her symptoms settle on the adjusted drug regime without problems. She presents with vomiting and diarrhoea. What drugs could cause this? Assuming an infective cause, what effect could these symptoms have on her meds?
• Alendronate can cause vomiting but usually when prescribed first. Digoxin can cause vomiting if levels are toxic, emphasising the need for regular level checks in the elderly if there is a change in their condition such as acute illness leading to dehydration via either vomiting or diarrhoea
• In the setting of an acute illness such as infection, many patients will continue to take their antihypertensive medication such as diuretics or ACE inhibitors. This may potentially increase their risk of dehydration and pre-renal impairment and also increase the risk of developing digoxin toxicity. In this situation, consideration to withholding their ACE inhibitor and/or the diuretic for a few days may be appropriate (during the acute illness). Similarly, warfarin levels may be affected, particularly if antibiotics have been introduced to treat the infection, and monitoring the INR in order to alter the warfarin dose should be considered.

Week 4
A concerned neighbour phones to say your patient has been found wandering in the street in her nightdress and is singing loudly throughout the night. What now?
• This is probably an acute reaction to her recent illness secondary to the infection and possible dehydration associated with it. The best treatment is to nurse in a familiar warm environment, with people she knows, as any change such as hospital referral will probably cause more problems. Ensure that in addition to infections, other obvious causes of agitation or delirium are not overlooked eg. pain, constipation, urine retention, etc. and manage these
• If drugs are needed, ‘start low and go slow’. We have used lorazepam as it is short acting and easy to tailor up as needed (starting at 0.25mg). If she is paranoid and agitated, low dose haloperidol (0.25mg-0.5mg) may be an appropriate short-term option. Again start at a low dose and tailor up if needed.

There are no definite solutions to polypharmacy problems but the workshop helped highlight many of the issues involved and ways in which general practitioners can be more aware and reduce the morbidity associated with polypharmacy.

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