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Geriatrics Research Review™

Making Education Easy

Issue 4 – 2009

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Welcome to the fourth issue of Geriatrics Research Review.

In one of the studies covered in this issue, investigations reveal an increased mortality in patients with Alzheimer's disease prescribed antipsychotic medications, confirming concerns about the safety of these drugs in patients with dementia. Another study considers the risks and benefits in prescribing warfarin for frail elderly patients with atrial fibrillation; the researchers found that such patients were significantly less likely to receive warfarin than non-frail and were more likely to experience adverse clinical outcomes, with and without antithrombotic therapy.

Finally, our last study reveals that patients, pharmacists, and physicians have incongruent beliefs about who should provide essential medication-related information. Differing expectations could lead to communication deficiencies when new medications are prescribed.

I hope you find this review of interest and practical use and welcome your comments and feedback.

Kind regards,

Dr Chris Tofield
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Abuse of people with dementia by family carers: representative cross sectional survey

Authors: Cooper C et al

Summary: These researchers interviewed 220 family carers of people newly referred to secondary psychiatric services with dementia who were living at home, in an attempt to determine the prevalence of abusive behaviours by family carers towards people with dementia. Psychological and physical abuse was assessed with the Revised Modified Conflict Tactics Scale. Fifty-two percent of carers reported some abusive behaviour and 34% reported important levels of abuse. Verbal abuse was most commonly reported. Only three (1.4%) carers reported occasional physical abuse. However, the study authors note although there were few cases of physical or frequent abuse, those with the most abusive behaviour may have been reluctant to report it.

Comment: This study has several limitations including significant selection bias. Low level verbal abuse appeared to be relatively common and is probably due to lack of understanding of dementia and frustration about challenging behaviours. Education of carers, support and counselling should be a part of comprehensive strategy in reducing abuse in this vulnerable group.

Reference: BMJ. 2009;338:b155.
http://www.bmj.com/cgi/content/full/338/jan22_2/b155

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Effectiveness of acute geriatric units on functional decline, living at home, and case fatality among older patients admitted to hospital for acute medical disorders: meta-analysis

Authors: Baztán JJ et al

Summary: The aim of this systematic review and meta-analysis of clinical evidence was to evaluate the effectiveness of acute geriatric units compared with conventional care units in adults aged ≥65 years admitted to hospital for acute medical disorders. 11 studies were included, of which five were randomised trials, four non-randomised trials, and two case-control studies. The randomised trials showed that compared with older people admitted to conventional care units those admitted to acute geriatric units had a lower risk of functional decline at discharge (combined odds ratio 0.82) and were more likely to live at home after discharge (1.30), with no differences in case fatality (0.83). Similar results were obtained after a global analysis of all studies.

Comment: The best way of delivering acute medical care for elderly is not very clear and likely to depend on variety of factors including availability of front-line geriatric multidisciplinary teams. This meta-analysis suggests some beneficial outcomes of acute geriatric units over usual medical care. The study has several limitations and further research into this growing area will be invaluable in planning future health services for the growing number of the sick elderly population.

Reference: BMJ. 2009;338:b50.

http://tinyurl.com/dczywy

Caring for Aged Dementia Care Resident Study (CADRES) of person-centred care, dementia-care mapping, and usual care in dementia: a cluster-randomised trial

Authors: These researchers investigated whether person-centred care and dementia-care mapping lead to improvements over usual care for people with dementia in residential care. A total of 289 residents in 15 residential care facilities in Sydney, Australia, were randomly allocated to one of three treatment groups for 4 months: person-centred care, dementia-care mapping, or usual care. The primary outcome was agitation measured with the Cohen-Mansfield agitation inventory (CMAI). At 4 months' follow-up, compared to usual care, CMAI score was lower in sites providing mapping (mean difference 10.9; p=0.04) and person-centred care (13.6; p=0.01). Compared with usual care, fewer falls were recorded in sites that used mapping (0.24; p=0.02) but there were more falls with person-centred care (0.15; p=0.03). There were no other significant effects.

Comment: This study from Australia highlights the importance of person-centred care and dementia-care mapping in reducing agitation in patients with dementia and behavioural problems. Conducting randomised controlled trials in these patients is difficult. Dementia-care mapping appears to be more effective but time consuming and expensive and could be difficult to incorporate into routine practice. It is highly desirable to implement good patient-centred care in facilities caring for dementia patients with behavioural problems.

Reference: Lancet Neurol. 2009;8(4):317-25.

http://linkinghub.elsevier.com/retrieve/pii/S1474-4422(09)70045-6

Independent commentary by Dr Sisira Jayathissa, General Physician and Geriatrician.

Dr Jayathissa is also the clinical head of internal medicine at the Hutt Valley DHB, and is actively involved in both undergraduate and post graduate medical education in the Wellington region. His interests in geriatrics includes delirium, cognitive aspects of stroke and orthogeriatrics.

The dementia antipsychotic withdrawal trial (DART-AD): long-term follow-up of a randomised placebo-controlled trial

Authors: Ballard C et al

Summary: Outcomes are reported from the Dementia Antipsychotic Withdrawal Trial (DART-AD) for 128 Alzheimer's disease patients at long-term care or skilled nursing facilities in England and Scotland who had been taking one of the five most commonly used antipsychotics (thioridazine, chlorpromazine, haloperidol, trifluoperazine, or risperidone) for ≥3 months at study enrolment. Participants were randomly assigned to continue with their antipsychotic treatment for 12 months (n=64) or to switch their medication to an oral placebo (n=64). Patients who continued on their antipsychotic regimen were 42% more likely to die over the 12-month period than those who switched to placebo (p=0.02); antipsychotic use was associated with a significantly lower cumulative probability of survival in both the per-protocol analysis (89.7% vs 97.1%) and the intent-to-treat population (74.7% vs 79.3%). The between-group difference increased thereafter. Respective cumulative survival rates for the antipsychotic-treated group and the placebo group were 46% vs 71% at 24 months; 30% vs 59% at 36 months; and 26% vs 53% at 42 months.

Comment: Adverse vascular effects of antipsychotics are well known. Post hoc analysis of this small randomised controlled trial in patients with dementia comparing antipsychotics and placebo showed increased mortality among patients on antipsychotic medications. During the study period very few patients switched from placebo to active treatment. The mortality difference at 12 months favouring placebo is substantial (NNH 20) and there was a non-significant increase in vascular deaths. The longer term open-label data need to be interpreted with caution due to small numbers and lack of data on treatments received. Prescribing antipsychotics in dementia should be limited to patients with severe behavioural problems uncontrolled by other methods.

Reference: Lancet Neurol. 2009;8(2):151-7.

http://linkinghub.elsevier.com/retrieve/pii/S1474-4422(08)70295-3

The impact of frailty on the utilisation of antithrombotic therapy in older patients with atrial fibrillation

Authors: Perera V et al

Summary: This study investigated the impact of frailty on the utilisation of antithrombotics and on clinical outcomes in 220 acute inpatients aged ≥70 years with atrial fibrillation admitted to a teaching hospital in Sydney, Australia; 207 were followed-up over 6 months. A validated tool identified 140 patients (64%) as frail. Frail patients were significantly less likely to receive warfarin than non-frail on hospital admission and discharge. During hospitalisation, the proportion of frail participants prescribed warfarin decreased by 10.7% and that of non-frail increased by 6.3%. Over the 6-month follow-up, 43 major or severe haemorrhages (20.8%), 20 cardioembolic strokes (9.7%) and 40 deaths (19.2%) were reported. Compared to non-frail, frail participants were more likely to experience embolic stroke (RR 3.5; p<0.05), have a small increase in risk of major haemorrhage (RR 1.5; p=0.29) and have greater mortality (RR 2.8; p=0.01).

Comment: Weighing risks and benefits in prescribing warfarin for frail elderly patients with atrial fibrillation is challenging. In this study warfarin was prescribed less frequently in frail elderly people and prescription of warfarin was associated with increased incidence of major haemorrhage. In contrast, reduced utilisation of warfarin may have resulted in increased risk of ischaemic stroke. Aggressive prescribing in frail elderly may not change their overall outlook.

Reference: Age Ageing. 2009;38(2):156-62.

http://ageing.oxfordjournals.org/cgi/content/abstract/38/2/156

Incidence of post-operative troponin I rises and 1-year mortality after emergency orthopaedic surgery in older patients

Authors: Chong CP et al

Summary: The incidence of postoperative troponin I elevations and its association with 1-year all-cause mortality and cardiac events after emergency orthopaedic-geriatric surgery was examined in 102 patients over the age of 60. The incidence of a postoperative troponin rise was 52.9%. Postoperative acute myocardial infarction was diagnosed in 9.8% and at 1 year, 70% of these patients were dead. At 1 year, 32.4% (33/102) had sustained a cardiac event (myocardial infarction, congestive cardiac failure, atrial fibrillation or major arrhythmia); multivariate analysis identified postoperative troponin rise (OR 3.9; p=0.008) as an independent predictor cardiac events. Fifty percent of patients with an associated troponin rise had a cardiac event compared to 18.8% of those without a rise in troponin levels. All-cause mortality was 20.6% at 1 year; 37% with an associated postoperative troponin rise died versus 2.1% with a normal troponin level (p<0.0001). Multivariate analysis identified two factors that were associated with 1-year all-cause mortality: postoperative troponin rise (OR 12.0; p=0.025) and sustaining a postoperative cardiac event (OR 6.6, p=0.006). Furthermore, patients with higher troponin levels had significantly worse survival at 1 year.

Comment: The value of asymptomatic troponin rise is often questioned by physicians. In this small study mainly involving older patients with lower limb fractures undergoing surgery, the authors demonstrated the utility of troponin I in predicting prognosis. Further study into this area may identify appropriate preventive and treatment strategies helping to improve prognosis.

Reference: Age Ageing. 2009;38(2):168-74.

http://ageing.oxfordjournals.org/cgi/content/abstract/38/2/168

Changing attitudes to cardiopulmonary resuscitation in older people: a 15-year follow-up study

Authors: Cotter PE et al

Summary: Resuscitation preferences regarding cardiopulmonary resuscitation (CPR) were elicited from 150 older Irish inpatients awaiting discharge in a university teaching hospital or a district general hospital. The results were compared with those elicited from 100 subjects 15 years earlier (1992). The majority (94%) felt it was a good idea for doctors to discuss CPR routinely with patients, compared with 39% in 1992. In their current health, 6% in 2007 versus 76% in 1992 would refuse CPR. In logistic regression analysis, independent predictors of refusal of CPR in current health included age and year of assessment. In the final model, those aged 75–84 years (OR 2.7; p=0.02) and ≥85 years (OR 15.19; p<0.0001) were more likely than those aged 65–74 years (reference group) to refuse CPR. Those questioned in 2007 (OR 0.04; p<0.0001) were less likely than those questioned in 1992 (reference group) to refuse CPR.

Comment: This study shows dramatic change in attitude towards resuscitation in elderly hospital patients over a 15-year period in Ireland. There were strong signals of patient autonomy influencing this trend. It doesn't appear that futility of resuscitation was discussed before the interview which may have significantly affected the result. Generalisability of this study is limited but local studies looking at this question would be valuable.

Reference: Age Ageing. 2009;38(2):200-5.

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Improving the diagnostic accuracy of depression in older persons: The Depression in the Aged Female National Evaluation Cluster Randomized Trial

Authors: Lattanzio F et al

Summary: These Italian researchers examined whether a training intervention improves the ability of geriatricians to recognise depression in older persons. The study involved 14 geriatric outpatient clinics with a total of 1914 outpatients aged ≥65 years not on antidepressants at study entry. Patients were evaluated for depression by the clinic geriatrician in charge of routine clinical management, and by a field researcher. Geriatricians were assigned to receive a residential 3-day educational programme on depression (intervention arm), or a generic course on disease management in elderly people (control arm). Sensitivity and specificity of the diagnosis of depression were significantly higher in trained than in untrained geriatricians (49% vs 35% and 91% vs 88%, respectively; p=0.002 in marginal regression models). Effectiveness of training was confirmed, adjusting for age, sex, and cognitive performance (p=0.02).

Comment: According to this study depression is under diagnosed by Italian geriatricians. Educational intervention has improved the rate of diagnosis of depression but still the majority of patients remain undiagnosed. The study assumes improved diagnosis will translate to better patient outcomes. Sustainability of improvement in diagnostic accuracy is unclear. Generalisability of this study to other settings might be difficult.

Reference: J Am Geriatr Soc. 2009 Feb 10. [Epub ahead of print]

http://www3.interscience.wiley.com/journal/122193835/abstract

Low diastolic ambulatory blood pressure is associated with greater all-cause mortality in older patients with hypertension

Authors: Ungar A et al

Summary: The relationship between total mortality and office and ambulatory systolic blood pressure (SBP), diastolic blood pressure (DBP), and pulse pressure (PP) was examined in 805 elderly patients (≥60 years) with hypertension. In a total of 3090 person-years of follow-up after a mean 3.8 years' follow-up, 107 participants died (average mortality rate 3.5% per year). According to bivariate analysis, office and ambulatory measurements among those who died were higher for SBP and PP and lower for DBP. Mortality rates were greater with higher SBP and lower with higher DBP. As a combined effect of these trends, PP was associated with the widest death rate gradients, from 12–66, 13–63, and 9–70 per 1000 person-years across office, 24-hour, daytime, and night-time PP quartiles, respectively. Multivariate Cox analysis confirmed these trends; the adjusted hazard of death increased linearly with increasing ambulatory SBP and PP, whereas it decreased significantly with increasing ambulatory DBP. The risk of death was 5-fold greater when night-time PP quartile 4 (median PP value 78 mmHg) was compared with quartile 1 (median PP value 46 mmHg).

Comment: This well conducted study involving older patients confirms the increased mortality associated with lower diastolic pressure, high pulse pressure and J-shape relationship with systolic blood pressure. Low diastolic and high pulse pressure may reflect poor cardiac function. Applying cook book medicine to treat hypertension and other cardiac problems in older patients may cause inadvertent adverse outcomes.

Reference: J Am Geriatr Soc. 2009;57(2):291-6.

http://www3.interscience.wiley.com/journal/121622551/abstract

Which providers should communicate which critical information about a new medication? patient, pharmacist, and physician perspectives

Authors: Tarn DM et al

Summary: Qualitative focus group discussions were conducted with 42 patients aged ≥65 years, 13 pharmacists, and 17 physicians, to clarify their perspectives about what information is essential to impart to patients receiving new medication prescriptions and who should provide the information. All groups affirmed the importance of discussing medication directions and side effects and said that physicians should educate about side effects and that pharmacists could adequately counsel about certain important issues. However, substantial disagreement existed between groups about which provider could communicate which critical elements of medication-related information. Some pharmacists felt that they were best equipped to discuss medication-related issues but acknowledged that many patients want physicians to do this. Physicians tended to believe that they should provide most new-medication education for patients. Patients had mixed preferences. Patients aged ≥80 years listed fewer critical topics of discussion than younger patients.

Comment: Quality use of medicine is an integral part of a good chronic disease management programme but doesn't always happen in clinical practice. This study demonstrates incongruent beliefs about medication-related counselling among older patients, pharmacists, and physicians, which may lead to inadequate communication when a new medication is prescribed. Delineation of responsibilities concerning counselling patients and providing information of new medications should become part of routine clinical practice.

Reference: J Am Geriatr Soc. 2009;57(3):462-9.

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