GP Research Review

Making Education Easy

Issue 17 – 2009

In this issue:

Welcome to the seventeenth edition of GP Research Review.

There's a good variety in this month's collection of studies, including one that fails to show any benefits of asymptomatic prostate screening. Asymptomatic patients are still being screened, with little evidence available to support this practice. What do you do? Also, there are a few studies that take a slightly different view on cardiovascular health risk factors, with one or two interesting implications. I hope you learn something of value for your patients in this month's selection.

Kind regards,

Dr Ronald McCoy

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Mortality results from a randomized prostate-cancer screening trial

Authors: Andriole GL et al

Summary: This report presents interim results from the Prostate, Lung, Colorectal, and Ovarian (PLCO) Cancer Screening Trial on prostate-cancer mortality. From 1993 through 2001, 76,693 men were randomised to either 6 rounds of annual screening with prostate-specific antigen (PSA) plus 4 annual digital rectal exams (DREs; n=38,343) or to usual care as the control (n=38,350). Usual care sometimes included screening, as some organisations have recommended. In the screening group, rates of compliance were 85% for PSA testing and 86% for digital rectal examination. Rates of screening in the control group increased from 40% in the first year to 52% in the sixth year for PSA testing and ranged from 41 to 46% for digital rectal examination. At 7 years' follow-up, screening was associated with a relative increase of 22% in the rate of prostate cancer diagnosis, compared with the control group. However, over an 11-year median follow-up, combined screening with PSA testing and a DRE did not reduce mortality; the rate of death from prostate cancer was very low and did not differ significantly between the two study groups.

Comment: This very large study has failed to provide strong evidence for asymptomatic screening for prostate cancer. These types of studies need to inform public health education campaigns in order to prevent unnecessary treatment-related morbidity.

Reference: New Engl J Med. 2009;360(13):1310-19.
http://content.nejm.org/cgi/content/full/NEJMoa0810696

Collaborative care for chronic pain in primary care: A cluster randomized trial

Authors: Dobscha SK et al

Summary: A collaborative intervention for chronic pain treatment was compared with usual treatment in 401 patients attending 5 primary care clinics of one Department of Veterans Affairs Medical Center. Forty-two primary care clinicians were randomised to usual care or to intervention. The patients had musculoskeletal pain diagnoses, moderate or greater pain intensity, and disability lasting ≥12 weeks. Over a 12-month period, intervention patients showed significantly greater improvements in pain-related disability and pain intensity compared with usual-treatment patients. At 12 months, pain-related disability remained 30% below baseline in 21.9% of intervention patients vs 14.0% of usual-treatment patients. In addition, greater improvement in depression severity occurred among patients receiving the intervention compared with those receiving treatment as usual (p=0.003).

Comment: Chronic pain management is one of the most challenging areas of primary care, and the take home message here, is that simple interventions can still result in significant gains. You can keep an eye on this trial at http://clinicaltrials.gov/show/NCT00129480 It's still ongoing, but I'll be looking forward to its outcomes.

Reference: JAMA. 2009;301(12):1242-52.
http://jama.ama-assn.org/cgi/content/abstract/301/12/1242

Total mortality after changes in leisure time physical activity in 50 year old men: 35 year follow-up of population based cohort

Authors: Byberg L et al

Summary: Data are discussed from a Swedish population-based cohort study involving 2205 men aged 50 years in 1970–3, who were re-examined at ages 60, 70, 77 and 82 years (over a 35-year follow-up period). The aim of the study was to examine how change in level of physical activity after middle age influences mortality and to compare it with the effect of smoking cessation. Absolute mortality rates were 27.1, 23.6, and 18.4 per 1000 person years in the groups with low, medium, and high physical activity, respectively. The relative rate reduction attributable to high physical activity was 32% for low and 22% for medium physical activity. Men who increased their physical activity level between the ages of 50 and 60 years continued to have a higher mortality rate during the first five years of follow-up (adjusted HR 2.64, compared with unchanged high physical activity). However, after 10 years' follow-up, increased physical activity was associated with reduced mortality to the level of men with unchanged high physical activity (1.10). The adjusted HR for increasing physical activity was 0.51, compared with unchanged low physical activity; a reduction in mortality comparable to that associated with smoking cessation (0.64, compared with continued smoking).

Comment: I love these studies! They provide strong evidence that the work that we do in general practice in promoting lifestyle change can have major patient benefits! I was a bit surprised, though, to see that the magnitude of the benefit was equivalent to stopping smoking. This shows how important lifestyle modification is for our patients.

Reference: BMJ. 2009;338:b688.
http://www.bmj.com/cgi/content/abstract/338/mar05_2/b688

High blood pressure advice given by natural health food stores

Authors: Siebers R et al

Summary: Using a hypothetical scenario of an individual with newly diagnosed hypertension, a disorder where complementary and alternative medicines are widely used but are not registered medicines, 26 health food stores and 26 pharmacies were visited by a 52-year-old male for advice. Twenty-five of the 26 pharmacists recommended an immediate visit to a general practitioner; one pharmacist recommended antioxidants and multivitamins and suggested that these together with stress reduction, regular exercise, and a fish meal once a week would reduce blood pressure within 2 weeks. In contrast, staff in 25 out of 26 health food stores did not refer the researcher to a medical practitioner; instead they recommended and sold a wide variety of compounds of unproven efficacy.

Comment: There are so many mistaken community beliefs and myths associated with blood pressure that this finding is not surprising. We need to spend more time, I think, educating our patients that there are no sensations associated with elevated blood pressure, so they don't fall prey to shoddy advice.

Reference: N Z Med J. 2009;122(1293):11-5.
http://www.nzma.org.nz/journal/abstract.php?id=3566

Assessment and management of hypertension in patients with type 2 diabetes

Authors: Thomas MC and Atkins R

Summary: The frequency of hypertension and its management was examined in clinic-based samples of patients with type 2 diabetes in Australian primary care. BP levels and antihypertensive management strategies were compared in patients with type 2 diabetes recruited as part of the Developing Education on Microalbuminuria for Awareness of reNal and cardiovascular risk in Diabetes (DEMAND) study in 2003 (n=1831) and the National Evaluation of the Frequency of Renal impairment cO-existing with Non-insulin-dependent diabetes (NEFRON) study in 2005 (n=3893). Systolic BP levels and the use of antihypertensive therapies were examined in patients with and without chronic kidney disease. At baseline, over 80% of patients in both studies were hypertensive. Systolic BP targets of ≤130 mmHg were achieved in approximately half of all treated patients in both studies. However, the use of antihypertensive therapy either alone or in combination increased from 70.4% in DEMAND to 79.5% in NEFRON 2 years later (p<0.001). Despite this, antihypertensive therapy continued to be underutilised in high-risk groups, including in those with established chronic kidney disease.

Comment: Meticulous attention to cardiovascular and renal risk factors is critical for successful health outcomes in diabetes. While their effects are additive, we know we can control them, so it's just a matter of being systematic, persistent and consistent in screening, monitoring and treatment.

Reference: Intern Med J. 2009;39(3):143-9.
http://www3.interscience.wiley.com/journal/121393178/abstract

Independent commentary by Dr Ronald McCoy, GP and educator in online GP medical education.

Research Review publications are intended for Australian health professionals.

Treatment of obstructive sleep apnoea in Samoa progressively reduces daytime blood pressure over 6 months

Authors: Middleton S et al

Summary: Among 221 Samoan patients with obstructive sleep apnoea referred for sleep studies, 180 received continuous positive airway pressure (CPAP) treatment and returned for follow-up and BP measurements at least once within a 7-month period. Following CPAP, BP was decreased from baseline by 7.1/5.9 mm Hg at 1 month and by 12.9/10.5 mm Hg at 6 months (n=180; p<0.0001). In a subgroup of 64 patients, representative of the entire group, but with regular follow-up, those with the highest baseline BP had the greatest fall in BP with CPAP; BP in the hypertensive subgroup (32/64) decreased by 21.5/13.1 mm Hg at 6 months (p<0.0001).

Comment: Another study adding to the growing body of evidence of the value of treating sleep apnoea. The cardiovascular benefits of treating this condition are mounting, and perhaps we need to become more systematic about looking at the impact of this common condition.

Reference: Respirology. 2009;14(3):404-10.
http://tinyurl.com/pxmlos

Adherence with urate-lowering therapies for the treatment of gout

Authors: Harrold L et al

Summary: These researchers examined the level and determinants of non-adherence with urate-lowering drugs (ULDs) prescribed for gout, in a cohort of 4166 gout patients aged ≥18 years who initiated use of allopurinol, probenecid or sulfinpyrazone from 1 January 2000 to 30 June 2006. Non-adherence was measured using the medication possession ratio (MPR) over the first year of therapy and defined as an MPR <0.8. Median MPR for any ULD use was 0.68. Over half of the patients (56%) were non-adherent (MPR <0.8). In adjusted analyses, predictors of poor adherence included younger age (OR 2.43 for ages <45 and OR 1.44 for ages 45 to 49), fewer comorbid conditions (OR 1.46), no provider visits for gout prior to urate-lowering drug initiation (OR 1.28), and use of NSAIDs in the year prior to urate-lowering drug initiation (OR 1.15).

Comment: Tablets work if the patients take them – it's not rocket science. I think this study will be of no surprise to most of us in general practice. This is especially concerning in this situation, as there can be long-term renal adverse effects, so keep an eye out for this issue.

Reference: Arthritis Res Ther. 2009;11(2):R46.
http://arthritis-research.com/content/11/2/R46

Meat intake and mortality: A prospective study of over half a million people

Authors: Sinha R et al

Summary: The National Institutes of Health–AARP Diet and Health Study enrolled approximately half a million people aged 50–71 years at baseline. Meat intake was estimated by a food frequency questionnaire administered at baseline. Over a 10-year follow-up, 47,976 men and 23,276 women died. Overall mortality risks were increased for men and women in the highest vs the lowest quintile of red meat intake (HRs of 1.31 and 1.36, respectively) and processed meat intake (HRs of 1.16 and 1.25, respectively). Men and women with higher intake also had increased risks for cancer mortality for red meat (HRs of 1.22 and 1.20, respectively) and processed meat (HRs of 1.12 and 1.11, respectively). Cardiovascular disease risk was increased for men and women in the highest quintile of intake of red meat (HRs of 1.27 and 1.50, respectively) and processed meat (HRs of 1.09 and 1.38, respectively). For the highest vs the lowest quintile of white meat intake for both men and women, there was an inverse association for total mortality, cancer mortality, and mortality from all other causes.

Comment: This is very complex to interpret, but we do know that processed meats are associated with increased cancer risk and many other factors associated with red meat consumption may influence. The excellent Australian healthy eating guidelines available at http://www.nhmrc.gov.au/publications/synopses/dietsyn.htm are still consistent with this finding, but – dare I say it – it's food for thought!

Reference: Arch Intern Med. 2009;169(6):562-71.
http://archinte.ama-assn.org/cgi/content/abstract/169/6/562

Use of inhaled and oral corticosteroids and the long-term risk of cataract

Authors: Wang JJ et al

Summary: Data are reported from the Blue Mountains Eye Study, which examined 3654 Australians aged ≥49 years (1992–1994); 2335 were re-examined after 5 years and 1952 were re-examined after 10 years (75.1%, 75.6% of survivors, respectively). Longitudinal associations between inhaled and oral corticosteroid use and 10-year incident cataract were examined. At baseline, 103 participants were current and 120 past users of inhaled corticosteroids, and 31 were current and 147 were past users of oral corticosteroids. In analyses adjusted for age and gender, current users had a greater risk of developing posterior subcapsular (PSC) cataracts (inhaled: OR 2.50; oral: OR 4.11) and nuclear cataract (inhaled: OR 2.04; oral: OR 3.45) but not cortical cataract. Interaction between inhaled and oral corticosteroid use was significant for PSC (p=0.01) and nuclear (p=0.02) cataract incidence. In subgroup analyses, only individuals who used both inhaled and oral steroids were at increased risk of PSC cataract (adjusted OR 4.76), comparing ever users of both with users of neither.

Comment: This is an unfortunate side effect, but these patients are sick, and need this treatment to prevent illness and death. The upside, I suppose, is that cataracts are eminently treatable, so while this is a trade-off, at least we can treat the adverse outcome.

Reference: Ophthalmology. 2009;116(4):652-7.
http://tinyurl.com/pxmlos

Primary health care providers surveyed commonly misinterpret 'first void urine' for chlamydia screening

Authors: Lusk MJ et al

Summary: An open question survey of general practitioners (GP) and hospital emergency department (ED) doctors revealed that the term 'FVU' (first void urine) used for urine chlamydia testing, is ambiguous, potentially leading to incorrect urine sample collection and barriers to effective screening. The data indicate that only 4.3% of GP and 6.9% of ED doctors respectively, correctly interpreted the meaning of FVU. The majority of clinicians surveyed misunderstood 'FVU' to require the first urine void of the day (i.e. 68.1% of GPs and 37.9% of ED doctors).

Comment: First void urine refers to the initial stream of urine, not the first passing of urine of the day. Just remember to tell this to your patients when organising this test. If in doubt, talk to your path lab for more information.

Reference: Sex Health. 2009;6(1):91-3.
http://www.publish.csiro.au/nid/164/paper/SH08087.htm