POEMs

Patient-Oriented Evidence that Matters

This edition's selection of POEMs suggest the usefulness of an innovative back pain treatment and pictograms (pictures used to communicate technical information), and there is also some evidence that a 10-year gap between colonoscopies is just fine – and even longer might also be OK. Conversely, other studies have shown the uselessness of cranberry juice in reducing UTIs among pregnant women and how pregnancy outcomes are about the same regardless of whether trial of labour or planned c-sections are employed for women with previous c-sections. There is also more evidence that children on daily budesonide have a few more asthma-free days but slower growth than children with chronic asthma who don't take daily steroids: a real trade-off with issues! Editor

Clinical question

What is the yield of screening colonoscopy five years after an initially normal examination result?

Bottom line

Five years after a normal colonoscopy result, a second examination detected no cancers and only 16 of 1256 patients had an advanced neoplastic polyp. The risk that those 'advanced polyps' will progress to cancer is only approximately 1% per year (Gastroenterology 1987;93:1009-13), so a 10-year interval as currently recommended by most organisations is perfectly reasonable and appears to provide a good balance between risk, benefit, and cost. An even longer interval may be reasonable if we can define low-risk patients on the basis of personal habits, family history, or genetics.
(LOE = 2b)

Reference

Imperiale TF, Glowinski EA, Lin-Cooper C, et al. Five year risk of colorectal neoplasia after negative screening colonoscopy. N Engl J Med 2008;359(12):1218-1224.

Study Design

Cohort (retrospective)

Funding

Government

Setting

Outpatient (any)

Synopsis

Current recommendations for colonoscopy generally suggest a 10-year interval, although the United States Preventive Services Task Force did not specify an interval because of a lack of good data. This study used a registry of 36 endoscopists in Indiana to identify adults older than 50 years without serious bowel disease who had a normal initial colonoscopy result (N=2436). The screening programme routinely recommended a second examination five years after an initial normal examination result, and 1256 patients (51.6%) complied. The researchers attempted to contact the patients who did not have a follow-up colonoscopy, but received responses from only 26%. No patients died of interval colon cancer based on death registry data. The second colonoscopy identified no adenocarcinomas (95% CI, 0–0.24%) and only 19 advanced adenomas in 16 persons (1.3%), defined as a tubular adenoma of at least 10mm, a polyp with at least 25% villous component, and any polyp with high-grade dysplasia. Among all 1256 patients screened, 79 would need to be rescreened at five years to detect an advanced adenoma. Among men, 55 would need to be rescreened; 182 women, however, would need to be rescreened. For persons with hyperplastic polyps on baseline colonoscopy, the number needed to screen would be 50; among those with no polyps at baseline the number needed to screen would be 88.

** Patient-Oriented Evidence that Matters. See editorial (NZFP 2003; 30:150)*

Clinical question

Do pictograms help reduce medication dosing errors by caregivers of children?

Bottom line

Compared with usual care, caregivers of children who use pictogram-based instructions have better knowledge about the prescribed medication, are less likely to make dosing errors, and are more likely to be adherent to the treatment regimen. (LOE = 2b)

Reference

Yin HS, Dreyer BP, van Schaick L, Foltin GL, Dinglas C, Mendelsohn AL. Randomized controlled trial of a pictogram-based intervention to reduce liquid medication dosingerrors and improve adherence among caregivers of young children. Arch Pediatr Adolesc Med 2008;162(9):814-822.

Study Design

Randomised controlled trial (nonblinded)

Funding

Other

Setting

Emergency department

Allocation

Concealed

Synopsis

This study took place in a paediatric emergency department serving a population of patients with mostly low education levels. Caregivers of 245 children aged between 30 days and eight years who were prescribed liquid medication (daily dose or as needed) were randomly assigned to usual care or to the intervention that consisted of plain language (English or Spanish) pictogram-based instruction sheets coupled with counseling by trained research assistants. The pictograms communicated the medication name, dosing instructions, and duration of treatment and the sheets provided a log for tracking medication administration. The intervention took less than five minutes. The research assistants contacted the caregivers after enrollment (three to five days after enrollment for as-needed medications; within one day of the anticipated last day of use for daily-use medications). The research assistants assessed whether the caregivers knew the name of the medication and dosing frequency. Additionally, the research assistants assessed dosing accuracy by directly observing the caregivers administer the medications. Finally, the researchers estimated adherence on the basis of the percent of medication doses given. There was no difference in the ability to name the medication or its indication. However, the caregivers in the pictogram-based group made fewer factual errors about medication frequency, preparation, and so forth. More important, the caregivers in the intervention group were more likely to administer medications accurately than those in the usual care group (number needed to treat [NNT] = 2–11) and to be adherent to the prescribed regimen (NNT = 2–12).

Clinical question

Can the Alexander technique reduce disability and pain in patients with chronic or recurrent low back pain?

Bottom line

The Alexander technique, a system of teaching self-awareness of body posture and movement, was more effective than usual care in reducing disability in patients with chronic or recurrent low back pain. It also decreased the number of days with back pain and improved quality of life. Teachers of the Alexander technique can be found in many communities. (LOE = 1b)

Reference

Little P, Lewith G, Webley F, et al. Randomised controlled trial of Alexander technique lessons, exercise, and massage (ATEAM) for chronic and recurrent back pain. BMJ 2008;337:a884.

Study Design

Randomised controlled trial (nonblinded)

Funding

Foundation

Setting

Outpatient (primary care)

Allocation

Concealed

Synopsis

Given the frequency of back pain and the disability it can cause, researchers are looking for combination approaches that might help return patients to higher functioning. These British researchers enrolled 579 patients with chronic or recurrent back pain drawn from 64 general practices in England. The patients had a score of 4 or more on the Roland Disability index (average score = 10.7–11.2) out of a possible 28 and had current pain lasting for at least three weeks. The patients were randomly assigned (concealed allocation) to one of eight groups of approximately 70 patients each. The control received normal care, and the other groups received either six sessions of massage, or six or 24 sessions of Alexander technique, with or without a prescribed exercise programme with up to three sessions of behavioral counselling. The Alexander technique consists of individualised instruction to help patients be more aware of their movements in order to produce better body habits that reduce muscle tension. Its origins are in the training of actors to promote better posture for proper voicing.

After three months, the combination of exercise and lessons in the Alexander technique reduced disability more than usual care, adding an additional decrease of 1.71 to 2.91 points in the Roland Disability score as compared with usual care ($P < .005$). Six Alexander lessons, combined with exercise, was nearly as effective as 24 lessons. Patients in the usual care group reported a median 21 days of pain over four weeks; the Alexander technique decreased this number by 11 to 16 days (in both six and 24 lesson groups). Massage was similarly effective, decreasing the disability score by 1.96 and the median days of back pain by 13 days.

Clinical question

Should pregnant women drink cranberry juice daily to reduce the risk of urinary tract infections?

Bottom line

In this small study, daily supplementation with cranberry juice by pregnant women did not significantly reduce the risk of urinary tract infections (UTIs), including asymptomatic bacteriuria. (LOE = 2b)

Reference

Wing DA, Rumney PJ, Preslicka CW, Chung JH. Daily cranberry juice for the prevention of asymptomatic bacteriuria in pregnancy: A randomized controlled pilot study. J Urology 2008;180(4):1367-1372.

Study Design

Randomised controlled trial (double-blinded)

Funding

Foundation

Setting

Outpatient (specialty)

Allocation

Concealed

Synopsis

UTIs in pregnant women are associated with an increased risk of adverse perinatal outcomes. These investigators identified 188 pregnant women at less than 16 weeks' gestation with a pretreatment urine culture that confirmed the absence of bacteriuria. Eligible patients randomly (by concealed allocation assignment) drank active cranberry juice cocktail (CJC) three times daily with each meal, CJC at breakfast only with placebo cocktail with lunch and dinner, or placebo cocktail with all three meals. The CJC was similar in composition to Ocean Spray low-calorie cranberry juice sweetened with sucralose (Splenda). The placebo cocktail was similar in flavour and color to the active CJC. Individuals assessing outcomes remained masked to treatment group assignment. Using intention-to-treat analysis, there was no significant difference between any of the groups in the frequency of UTI, including asymptomatic bacteriuria. Nearly 40% of the patients withdrew from the study, mainly for gastrointestinal complaints, including nausea, vomiting, diarrhoea, and dislike of the taste. The investigators tried to decrease the drop-out rate by changing the dose of CJC to only twice per day but this did not improve compliance. There were also no significant differences between the groups in perinatal outcomes.

Clinical question

Is trial of labour after Caesarean delivery associated with more or less maternal morbidity than elective repeat Caesarean delivery?

Bottom line

In this meta-analysis of observational studies of birth after Caesarean delivery, trial of labor (TOL) was associated with a slightly increased risk (less than 1 percentage point) of uterine rupture or dehiscence (UR/D) compared with elective repeat Caesarean delivery (ERCD). Induction of labor was also associated with a less than 1 percentage point increase in the risk of UR/D compared with spontaneous labor. Overall maternal morbidity, blood transfusions, and hysterectomy did not differ between groups. (LOE = 2c)

Reference

Rossi AC, D'Addario V. Maternal morbidity following trial of labor after cesarean section vs elective repeat cesarean delivery: a systematic review and metaanalysis. Am J Obstet Gynecol 2008;119(3):224-231.

Study Design

Meta-analysis (other)

Funding

Unknown/not stated

Setting

Various (meta-analysis)

Synopsis

This meta-analysis compared outcomes of maternal morbidity in observational studies of birth after Caesarean delivery in women with singleton pregnancies beyond 20 weeks' gestation. The authors included seven studies with 24 349 women planning TOL and 18 621 planning ERCS. Vaginal birth after Caesearan delivery was successful in 73% of women who attempted TOL. Uterine rupture and dehiscence (UR/D) were grouped together as a single outcome and occurred in 1.3% of women who planned TOL and 0.4% of women who underwent ERCS (P = .01). More UR/D were associated with induced labor than with spontaneous labor (1.3% vs 0.5%; P< .0001). There were no statistically significant differences between the two groups for any maternal morbidity, blood transfusion, or hysterectomy. These data have the limitations inherent in observational data for determination of causation, and therefore it is inappropriate to calculate numbers needed to treat.

Clinical question

Do children with mild persistent asthma need daily inhaled corticosteroids?

Bottom line

Children with mild persistent asthma treated with daily inhaled budesonide (Pulmicort) for 18 months had slightly fewer exacerbations and had more asthma-free days than children treated with disodium cromoglycate (Intal) and children who only used the budesonide during exacerbations. The children using daily inhaled budesonide had slower growth compared with children in the other treatment groups but were less likely to drop out of the study because of side effects or deterioration of their asthma. (LOE = 1b-)

Reference

Turpeinen M, Nikander K, Pelkonen AS, et al. Daily versus as-needed inhaled corticosteroid for mild persistent asthma (The Helsinki early intervention childhood asthma study). Arch Dis Child 2008;93(8):654-659.

Study Design

Randomised controlled trial (double-blinded)

Funding

Industry + government

Setting

Outpatient (any)

Allocation

Concealed

Synopsis

Expert-based guidelines suggest that clinicians prescribe inhaled corticosteroids to adults and children with mild persistent asthma. These Finnish researchers evaluated 178 children between the ages of five years and 10 years with newly diagnosed asthma. The children with mild persistent asthma based on lung functions and symptoms were randomly assigned to one of three treatment groups. All patients went through a run-in period where pulmonary function and asthma symptoms were assessed for baseline comparisons.

Group 1 (n=59) received budesonide 400 micrograms twice daily for one month, followed by 200 micrograms twice daily for five months, followed by 100 micrograms twice daily for the next year. Group 2 (n=58) received budesonide 400 micrograms twice daily for one month, followed by 200 micrograms twice daily for five months, followed by placebo for the next year. (Group 1 and group 2 received the same treatment for the first six months.) Group 3 (n=61) received open-label inhaled disodium cromoglycate for the entire study duration. When exacerbations occurred, the researchers used budesonide 400 micrograms twice daily for two weeks in all three groups. Additionally, all patients received terbutaline 0.25 mg per dose for rescue. Overall, they lost one patient each from groups 1 and 3. The authors used intention to treat to analyze the outcomes.

Compared with their baseline pulmonary functions, patients in each group had a similar 6% improvement during the first six months and a 10% to 12% improvement after 18 months. During the first six months when groups 1 and 2 were receiving the same treatment, the patients experienced an average of 0.3 exacerbations compared with 1.2 per patient treated with disodium cromoglycate. During the subsequent year, patients in group 1 (continued steroid use) averaged 1 exacerbation per patient compared with 1.7 in group 2 and 1.6 in group 3. Additionally, during the first 6 months, the children taking steroids (groups 1 and 2) had 20% more asthma-free days (compared with their baseline period) while there were only 4% more in the children treated with disodium cromoglycate. For the subsequent year, the patients in group 1 (continuous steroids) had 29% more asthma-free days, patients in group 2 (steroids plus placebo) had 20% more asthma-free days, and patients in group 3 (disodium cromoglycate) had 12% more asthma-free days. The authors report that the differences in asthma-free days between group 1 and group 2 and between group 2 and group 3 were not statistically significant. These differences, however, might still be clinically important. The study was designed to be able to detect modest differences in pulmonary function results, but not for the more clinically relevant outcomes.

During the first six months, the children in the steroid treatment groups grew approximately 2cm per year slower than the children treated with disodium cromoglycate. These trends persisted for the following year, with the children in group 1 having the slowest growth rate. Four children (7%) in group 1 withdrew from the study because of deterioration of their asthma or side effects; nine children (16%) in group 2 and 12 (20%) in group 3 similarly withdrew. Given the small numbers, the confidence intervals here are quite wide; we need a larger study to determine if the differences are due to chance.

The future

'Scientific and technological innovations bring the prospect of new prevention and care possibilities. Greater understanding of the role that genes play in health and disease is likely to have an enormous influence on health care, especially in terms of diagnosis and prognosis. Information and communication technology creates opportunities for more thorough and consistent documentation of decisions at the point of care, better continuity of care, and more effective communication between organisations and sectors. Diagnostic innovations like CT and MRI scanning make invasive (and often painful) diagnostic tests obsolete and near-patient testing creates timely and cost-effective opportunities for the improvement of diagnostic accuracy. New drug treatments are emerging and may change the approach to diseases (replacing surgery with medical treatment: for example proton pump inhibitors). The development of evidence-based medicine, and the rapid growth of the knowledge base in many specialties, has provided important tools to make health care more consistent, effective, and cost-effective.'

De Maeseneer J, Moosa S, Pongsupap Y, Kaufman A. Primary health care in a changing world. Br J Gen Pract 2008; 58(556): 806-809.