JIM Reading List

In this issue, our Literature Review section continues with another installment of the JIM Reading List. We’ve scanned the clinical literature for citations of papers and studies that may have direct relevance to the practice of Insurance Medicine, including mortality, disability, health care issues, and risk associated with specific diseases. With this installment, we will begin to list the article summaries by topic. The intent of the Reading List is to hit some highlights. Hopefully it will be useful when a question concerning one of these subjects crosses your desk. Contributions to the Reading List by all are invited. Please forward your citation and summary to Dr. Michael Moore, Associate Editor, Literature Review: moorem1@nationwide.com. We will acknowledge all contributors to each issue’s installment.

Cardiovascular Disease Treatment


A total of 2521 patients with either NYHA class II or III congestive heart failure were randomized to receive either placebo, Amiodarone, or an implanted Cardioverter-Defibrillator. In follow up of over 45 months, there was no difference in the death rate between the placebo and the Amiodarone groups (29% vs 28%). However, the ICD cohort was associated with a decreased death rate of 23%. Thus, it was the conclusion of the investigators that in patients with NYHA class II or III CHF with ejection fractions of 35% or less, Amiodarone had no effect on survival, whereas an ICD was associated with a reduction in mortality of 23%. Michael L. Moore, MD, FACP


Elective endovascular repair of abdominal aortic aneurisms (AAA) is becoming more widespread. In this trial, 345 patients with AAA of at least 5 cm in diameter were randomized to endovascular or open repair. The primary endpoint was 30-day mortality in combination with moderate/severe complications, which occurred in 24% of open repair subjects and 18% of endovascular repair patients, a significant difference. Procedure-related mortality was 4.6% in the open repair group vs 1.2% in the endovascular repair group. Cardiopulmonary complications were more apt to follow open repair, and vascular and implant-related complications were more common after endovascular repair. While short-term outcomes appear to favor endovascular repair of AAA, it remains to be seen whether long-term outcomes will support endovascular repair as the preferred procedure. David S. Williams, MD

Cardiovascular Disease Risk

C-reactive protein (CRP) is a cardiac inflammatory marker and many consider an elevated CRP to be a positive risk factor for coronary artery disease. Therapy with statins not only lowers LDL cholesterol levels, but also CRP levels. This study prospectively analyzed 3745 patients (mean age 58) with acute coronary syndromes and randomly treated with either 80 mg atorvastatin or 40 mg pravastatin. Patients who achieved CRP levels less than 2 mg/L on statins did much better independently of the end level of LDL. This supports also setting a target goal for CRP levels when using statin therapy for secondary prevention to help lower cardiovascular risk. Gina Guzman, MD


Many obese patients are now turning to bariatric surgery when conventional diet and weight loss programs have failed to achieve and maintain desired weight loss goals. This prospective, nonrandomized study examined 4047 obese Swedish subjects (mean body mass index of 41) who underwent gastric surgery (gastric banding, vertical banded gastroplasty or gastric bypass). Over the 10-year period, surgically treated patients showed greater long-term weight loss (16% vs 2%) while 36% also recovered from diabetes. It appears bariatric surgery shows promise in helping decrease overall mortality from obesity related cardiovascular risk, although further studies are needed. Gina Guzman, MD


A large prospective study was undertaken to determine if retinopathy could serve as an independent predictor for development of congestive heart failure. A total of 11,612 patients were followed over 7 years. After controlling for age, sex, race, pre-existing coronary artery disease, blood pressure, diabetes, glucose and cholesterol levels, smoking and BMI, the presence of retinopathy was associated with a 2-fold increase in risk for CHF. In those patients with pre-existing CAD, diabetes or hypertension, there was a 3-fold increase in risk. Thus it appears that retinopathy is an independent predictor of CHF, likely from microvascular disease changes. Michael L. Moore, MD, FACP


Researchers prospectively studied self-reported alcohol consumption and risk for ischemic stroke among 38,156 male health professionals followed for 14 years. The general message from these multivariable analyses is that while some subgroups may benefit from moderate drinking (ie, decreased risk of ischemic heart disease), it clearly does not protect against stroke, and heavier drinking might further increase stroke risk. David S. Williams, MD


B-type natriuretic peptide (BNP) is a hormone released by cardiac ventricles in response to myocyte stretch. The N-terminal fragment is the inactive part of the prohormone. Increased circulating levels of BNP and NT-pro-BNP result from left ventricular impairment and/or cardiac ischemia. These investigators in Denmark followed 1034 patients with angiographically-proven coronary artery disease and baseline NT-pro-BNP levels for a median of 9 years. NT-pro-BNP was shown to be a marker of long-term mortality in patients with stable coronary disease, a population not previous studied in this regard. Furthermore, NT-pro-BNP levels had prognostic value above and beyond that provided by conventional cardiovascular risk fac-
tors and extent of left ventricular dysfunction.

David S. Williams, MD

Oncology


Bladder cancer will occur in over 60,000 people in the United States this year, and 13,000 will die of the disease. The armamentarium for diagnosing bladder cancer has included urine cytology and cystoscopy. This study evaluated the usefulness of the nuclear matrix protein NMP22 proteomic marker assay. The assay was easy to perform by adding 4 drops of urine to the sample well of the point-of-service device. The results were qualitative much like a rapid strep test. Results were positive or negative with a control to ensure that the device was working properly. The NMP22 assay cost $24 as compared to the average Medicare reimbursement of $56 for urine cytology. There were 1331 patients in this study, by design all had urine cytology, NMP22 assay and cystoscopy. There were 79 that were diagnosed with bladder cancer. Initial cystoscopy diagnosed 70/79, the remaining 9 were diagnosed on subsequent cystoscopies conducted in the following 3 months. The NMP22 assay was positive in 44 of the 79 patients with bladder cancer. Urine cytology was positive in only 12 of the 79. The specificity of the NMP22 in this study was 55.7% as compared to 15.8% for urine cytology. The sensitivity of the NMP22 in this study was 86% as compared to the urine cytology of 99%. The NMP22 assay detected 4 cancers that were not visualized during initial cystoscopy, 3 of those were muscle invasive. Of the 79 malignancies, 10 were muscle invasive. Initial cystoscopy visualized 6 (60%) of these, the NMP22 assay identified 9 (90%), and only 2 (22%) were detected by urine cytology. A limiting factor in the usefulness of this assay is that the false-positive rate is high. Of the 223 positive tests, only 44 had bladder cancer. A positive predictive value of 19.7% certainly would not lend itself to a stand-alone screening assay. The NMP22 assay seems to be a cheap, easy to use, point-of-service diagnostic tool that may be useful as an additional test in this common malignancy. The high false-positive rate may limit the excitement for routine use. John Kirkpatrick, MD

Neuropsychiatric Disorders


Subjective complaints about memory problems are commonly found on review of medical records for elderly applicants. But just what do they mean? This prospective study followed 1883 subjects age 65 and older with no evidence of dementia on standardized testing. At baseline, 87 subjects “perceived” a decline in memory, and after follow-up of 5 years, 126 participants actually developed dementia. The incidence of dementia among those with subjective complaints of memory problems at baseline was 15%, but only 6% among subjects with no such complaints. While older people who perceive a deterioration in memory (but are otherwise cognitively intact) do have increased risk for developing dementia, the absolute increase is rather small, and most (85%) of those with subjective memory complaints did not develop dementia. David S. Williams, MD

Pediatrics


While the effects of maternal hypertension are well known, little has been written about the effects of low maternal blood pressure. These investigators evaluated pregnancy and
delivery data for 210,814 women delivering their first infants in London from 1988–2000. They found an inverted U-shaped relation between the mother’s highest diastolic BP and birth weight: birth weight was maximal when the highest diastolic BP recorded at/after 34 weeks gestation was around 80 mmHg. Lower and higher diastolic blood pressures were associated with lower birth weights, as well as higher infant mortality. In fact, 90% of excess infant deaths related to abnormal maternal blood pressure occurred among women with low, not high, diastolic blood pressure. The authors speculate low diastolic pressure may lead to poor placental perfusion. David S. Williams, MD