Cystatin C and Aging Success

The effect of cystatin C on successful aging was examined in the Cardiovascular Health Study. Successful aging was defined as remaining free of cardiovascular disease, cancer, and chronic obstructive pulmonary disease, with intact physical and cognitive functioning. An adjusted accelerated failure time model was used to evaluate the percentage reduction in successful life years by level of cystatin C. The mean cystatin C level and estimated glomerular filtration rate were 1.06 mg/L and 78 mL/min/1.73 m², respectively. The adjusted percentage reduction in successful life years in the highest quartile in comparison with the lowest quartile of cystatin C was 27% (95% confidence interval, 11%-39%). A higher cystatin C level, even within a range of relatively normal kidney function, was associated with unsuccessful aging.

See page 147

Progressive Preclinical Interstitial Lung Disease in Rheumatoid Arthritis

Ochucio et al identified asymptomatic, preclinical interstitial lung disease in a subpopulation of patients with rheumatoid arthritis (RA) who were referred to the National Institutes of Health. Preclinical interstitial lung disease in these individuals was shown to progress over time and to be associated with a profibrotic alveolar microenvironment. History of smoking may be a risk factor for development of preclinical interstitial lung disease in patients with RA, and treatment with methotrexate may be associated with progression of preclinical interstitial lung disease. Potential pathogenic mechanisms in patients with RA with preclinical interstitial lung disease appear to differ from those with pulmonary fibrosis. This study furthers the understanding of interstitial lung disease associated with RA by focusing on patients with early, asymptomatic, preclinical lung disease.

See page 159

Variations Between Clinical Trial Participants and Medicare Beneficiaries in Evidence Used for Medicare National Coverage Decisions

The Centers for Medicaid and Medicare Services (CMS) makes national coverage determinations about services for beneficiaries based on a rigorous evidence review process. To compare the clinical trial data with the demographics of the Medicare population, Dhruva and Redberg performed a meta-analysis of data on 40,009 subjects from all 141 trials included in the technology assessments for the 6 cardiovascular disease meetings of the advisory panel of the CMS. They found that Medicare beneficiaries differ significantly from subjects of cardiovascular clinical trials that are used to inform Medicare coverage decisions. Clinical trial participants, compared with beneficiaries, are more likely to be younger, male, and non-US residents. The clinical trials, moreover, rarely reported outcomes stratification by age, sex, and race. The authors conclude that there is a need for data more relevant to Medicare beneficiaries and suggest ways to increase the enrollment of and reporting on women and the elderly population in clinical trials to enhance availability of relevant data for Medicare coverage decisions.

See page 136

The Growing Burden of Diabetes Mellitus in the US Elderly Population

This study examines trends in rates of occurrence of diabetes and its complications among persons 65 years or older in the United States using claims data from Medicare. Compared with the controls, annual incidence of diabetes increased by 23% between 1994-1995 and 2003-2004, and prevalence increased by 62%. Mortality following diabetes diagnosis among persons decreased by 8.3% relative to the controls. Except for eye disease, complication rates among persons with diabetes did not decline during 1994-2004. The burden of financing and providing medical care for persons 65 years or older with diagnosed diabetes is growing rapidly owing to increased incidence and prevalence of the disease, which is due to decreased mortality and a lack of improvements in complication rates.

See page 192

Association of Exercise Capacity on Treadmill With Future Cardiac Events in Patients Referred for Exercise Testing

In a cohort study of 9569 patients referred for exercise treadmill testing in a large managed care organization, we evaluated the association between exercise capacity and the outcomes of myocardial infarction, unstable angina, and coronary revascularization. All-cause mortality was evaluated as a secondary outcome. After adjusting for patient characteristics and other exercise treadmill testing parameters, reduced exercise capacity (<85% of age- and sex-predicted peak workload) was associated with nonfatal cardiovascular events and mortality. This study has important implications for the identification of patients at high risk for future cardiovascular morbidity and suggests that aggressive risk factor modification and close follow-up should be considered for patients with impaired exercise capacity. Prospective intervention studies are needed to determine the best diagnostic and therapeutic approaches for this patient population.

See page 174