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Brief summaries of the latest clinical findings

EPIDEMIOLOGY

Cardiovascular Disease Is a Risk Factor for Hip Fracture

Over the past 30 years, the incidence of fracture has steadily risen among patients with acute myocardial infarction (MI), but has not risen similarly in the general population. Some researchers have suggested a causal link between heart disease and osteoporotic fractures; others have pointed to mechanisms such as age-related chronic disease and shared etiologic factors. To help clarify any possible relationship, researchers from Mayo Clinic in Rochester, Minnesota, and Tel Aviv University in Tel Aviv, Israel, studied the association of hip fractures with any and all disease among participants in the Rochester Epidemiology Project, a large long-term study. The researchers analyzed data from 3,808 patients (1,904 case-control pairs) with a mean age of 82.

Many conditions were associated with risk of hip fracture, including infectious and parasitic disease; endocrine, nutritional, and metabolic disease; blood diseases; nervous system diseases; and mental disorders. But the largest increases in association were observed for ischemic heart disease, other forms of heart disease, and hypertensive diseases (mainly hypertension). Both the strength of the association and its increase over time were greater among elderly women.

The reason for the "alarming trend" is not definite, the researchers say. Genetic predisposition for cardiovascular disease and hip fractures, for instance, don't explain it. Frailty and comorbidity may be clues, especially since they are chronic conditions among elderly women, the group at highest risk.

The researchers also point to a shared risk factor for frailty-related cardiovascular conditions such as heart failure and diabetes: obesity, which doubled among patients with MI between 1979 and 2006. Contrary to the traditional concept of frailty as a wasting disorder, they note, and despite weight loss being one of the recognized components of this syndrome, recent studies have identified sarcopenic obesity (excess weight plus reduced muscle mass or strength) as an emerging cause of frailty in older adults.

Source: Gerber Y, Melton LJ 3rd, McNallan SM, Jiang R, Weston SA, Roger VL. *Am J Med.* 2013;126(2):169.e19-169.e26. doi: 10.1016/j.amjmed.2012.06.032.

GERIATRIC ONCOLOGY

Does Frailty Protect Against Cancer?

One of the mysteries about cancer is that risk drops sharply as people age past 80. The "oldest-old" have less aggressive cancers that grow more slowly, with less prominent vessels and fewer metastases than those seen in younger patients. Researchers have postulated various reasons, including the theory that tissues in older patients simply can't sustain cancer cell growth and proliferation.

Researchers from the National Institute on Aging in Baltimore, Maryland, believe frailty may have something to do with it. In a previous nursing home study, the researchers suggested that the tissue microenvironment in frail elderly patients might reflect overall deregulated homeostasis (as seen in cellular senescence) and as such would be less hospitable to tumor cell proliferation. They observed "strikingly less" cancer in older patients in the nursing home, compared with age-matched individuals in the community. They allow, though, that the nursing home setting "does not foster preventive screening and comprehensive diagnostic evaluations." Thus, it's possible that the lower cancer rates reflected underdiagnosis, not lower incidence.

To find out, the researchers analyzed cancer incidence over a 4-year period among mostly community-dwelling older adults participating in the Established Populations for Epidemiologic Studies of the Elderly (EPESE). The EPESE consists of prospective studies of about 14,000 adults aged ≥ 65 years in the following communities: East Boston, Massachusetts; 2 rural counties in Iowa; New Haven, Connecticut; and segments of the north-central Piedmont area of North Carolina. The current study used data of 3,969 people from all but the Piedmont EPESE sites.

The participants were contacted annually, with an in-home interview in the 7th year, to assess physical performance. Participants who scored 0 on the chair stand test, had a walking speed score of 0 or 1, or had reported dependency in any activities of daily living were classified as frail. Measured frailty increased with age, showing that the 1,372 men in the study who were aged ≥ 85 years, 76 (46%) were frail, and of 2,597 women of the same age bracket, 261 (61%) were frail. Among all 3,969 participants, women and African Americans were most likely to be frail. The least common study site for measured frailty was in Iowa and most common in New Haven where nearly 50% of all women classified as frail.

The researchers found a 5.5% incidence of cancer in the total population: 8.8% among men, vs 3.7% among women. In an unadjusted analysis, cancer incidence in the over-

all population did not differ greatly between the frail and nonfrail, but when the researchers broke down the data by gender, frailty began to matter more: Among nonfrail men, the incidence was 9.5%, compared with 6.9% among frail men.

More men than women died during follow-up, and more of the frail subgroup died. Among people who died, those who were frail at baseline were less likely to die of, or with, cancer than their more robust counterparts, the researchers say, which supports their original hypothesis. Moreover, the fact that women were more likely than men to be frail, but less likely to have cancer, also supports the idea of frailty as a protective mechanism.

Source: Kanapuru B, Simonsick EM, Ershler WB. *J Geriatr Oncol.* 2013;4(1):19-25. doi: 10.1016/j.jgo.2012.08.005.

UROLOGY

Choosing the Best Catheter for the Patient

Catheter-associated urinary tract infection (UTI), which accounts for 20% to 45% of all nosocomial infections, can range from mild and easily treated, to life-threatening. The most important risk factor for catheter-related UTI is the prolonged use of an indwelling catheter. But intermittent self-catheterization, intended in part to reduce the risk of UTIs, is still hampered by them.

Patients have a number of intermittent catheter options: hydrophilic, gel reservoir, and noncoated. Coated catheters are discarded after use; noncoated catheters may be discarded after use or washed and reused for up to 1 week. Which choice is best? British researchers from Royal College of Physicians in London; Peninsula Community Health in St. Austell; Horsham Hospital in Horsham; Court View Surgery in Strood; and Florence Nightingale School of Nursing and Midwifery in London, all in the United Kingdom, aimed to systematically compare the options (something that had not yet been done) to determine the most clinically effective and cost-effective choice. They found that the best available evidence indicated that the type of catheter used for intermittent self-catheterization has little effect on the rate of infection, but a large impact on cost.

The researchers analyzed findings from randomized controlled trials and randomized crossover trials of intermittent self-catheterization lasting 28 days or more in community or primary care settings. Eight studies were included in the final review, involving 461 patients, mostly with spinal cord injuries.

Patients using gel reservoir and hydrophilic catheters were significantly less likely to report 1 or more UTIs, compared with those using sterile noncoated catheters. The analysis revealed no significant difference in the incidence of symptomatic UTI for clean vs sterile noncoated catheters for long-term intermittent self-catheterization.

The differences in rates of UTIs were sometimes statistically significant, but they were all associated with "wide and overlapping" confidence intervals, the researchers say, leading to uncertainty about whether the effects were clinically significant. Thus, they turned to costs to help make the choice. Although gel reservoir catheters were the most effective for intermittent self-catheterization, they were the most expensive. Clean noncoated catheterization is the most cost-effective method; where this is not viable, gel reservoir catheters may be more cost-effective than hydrophilic catheters.

However, because the differences are slight, patient preference becomes an even more important factor. Some patients may find one type of catheter easier to use than another and derive a benefit not captured in the model, the researchers acknowledge. Neither of the studies comparing multiple use of noncoated catheters with single-use sterile noncoated catheters included a measure of patient preference or comfort. But in the remaining studies, the preference was for hydrophilic or gel reservoir catheters. The researchers suggest giving patients a choice of the most cost-effective treatment plus all cheaper options.

Source: Bermingham SJ, Hodgkinson S, Wright S, Hayter E, Spinks J, Pellowe C. *BMJ.* 2013;346:e8639. doi: 10.1136/bmj.e8639.

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