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a Signature HealthCARE publication

January, 2020 EDITION

When Half is As Good as Full! Approaches to Hip Repair in Geriatric Patients

Hip fractures are one of the top 10 causes of geriatric disability. Incidence is even higher among skilled nursing facilities (SNFs) with 2.3 hip fractures per 100 person years. With more than a million SNF residents any given day in our SNFs, this translates into 23,000 residents with hip fractures each year and one fracture occurring every 25 minutes!

Bisphosphonates, exercise and activity are major interventions to prevent fractures but given the high frequency of falls in SNF population, fractures are going to be inevitable. For majority of patients, surgical repair remains the best management option but the debate regarding the use of hemiarthroplasty versus total hip replacement continues. A recent study published in New England Journal of Medicine tackled this issue.

Researchers randomly assigned 1,495 patients who were 50 years of age or older and had a displaced femoral neck fracture to undergo either total hip arthroplasty or hemiarthroplasty. This was a more robust population than SNF patients as these were able to ambulate independently. The primary end point was a secondary hip procedure within 24 months of follow-up. Secondary end points included death, serious adverse events, hip-related complications, health-related quality of life, function, and overall health end points.

The results showed that the incidence of secondary procedures did not differ significantly between the two groups. Total hip arthroplasty provided a clinically unimportant improvement over hemiarthroplasty in function and quality of life over 24 months.

The study adds a lot to the full versus hemi debate by showing that outcomes may be as good as with the conservative hemiarthroplasty approach.

HEALTH Investigators. "Total hip arthroplasty or hemiarthroplasty for hip fracture." *New England Journal of Medicine* 381.23 (2019): 2199-2208

Updated Guidelines on Management of Community Acquire Pneumonia

Pneumonia continues to be one of the most common respiratory infections that results in considerable morbidity and mortality among the patients in the community and SNFs. Studies show that prompt treatment with adequate antibiotics not only improves patient outcomes but minimizes antibiotic resistance. American Thoracic Society and Infectious Diseases Society of America recently released the updated guidelines on management of Community Acquired Pneumonia (CAP)

Unchanged recommendations include: 1) Obtain Legionella and pneumococcal urinary antigen assays only in patients with severe CAP or epidemiologic risk factors, 2) Do not add anaerobic coverage routinely for suspected aspiration pneumonia, and 3) Test and treat for influenza during influenza season.

The guidelines also added amoxicillin as a first line agent for healthy outpatient adults and restricted use of macrolide monotherapy to regions where local macrolide resistance to pneumococcus is < 25%. The guidelines have eliminated the concept of healthcare-associated pneumonia.

Additional clinical issues addressed in the new guidelines are: 1) Do not use serum procalcitonin levels to determine initiation or duration of antibiotic therapy in patients with radiographically confirmed CAP unless antibiotic therapy is being extended beyond 5 to 7 days, 2) Do not routinely treat with corticosteroids except in patients with concurrent refractory septic shock, and finally, no need to do a routine follow up chest x ray.

Metlay, J. P., Waterer, G. W., Long, A. C., Anzueto, A., Brozek, J., Crothers, K., ... & Griffin, M. R. (2019). Diagnosis and treatment of adults with community-acquired pneumonia. An official clinical practice guideline of the American Thoracic Society and Infectious Diseases Society of America. *American journal of respiratory and critical care medicine*, 200(7), e45-e67.

Vitamin D Provides Better Results in Daily Partnership with Calcium

Last decade was hectic for researchers exploring the benefits of vitamin D for preventing bone fractures. A lot of publications with varying messages were published that have raised more questions than answers. Luckily the decade closed with a relevant study that was a bit clearer in its message.

In this meta-analysis that was published in JAMA, researchers wanted to assess the impact on risk of fractures with various doses and combinations of vitamin D. They studied observational studies with more than 200 cases each and randomized trials with more than 500 patients each. The meta-analysis of the observational studies of blood 25(OH)D concentration and risk of fracture (11 studies with 39,141 participants) demonstrated that higher blood concentrations were associated with lower risks of any fracture and hip fracture. An increase of 10.0 ng/mL in 25(OH)D concentration was associated with a 7% lower risk of any fracture and a 20% lower risk of hip fracture.

Among the 11 RCTs (34,243 participants, 2,843 fractures, 740 hip fractures) of vitamin D supplementation alone (daily or intermittent dose of 400-30 000 IU) researchers did not find a reduced risk of any fracture or hip fracture (RR, 1.14; 95% CI, 0.98-1.32), but these trials had quality limitations. In contrast, a meta-analysis of 6 RCTs (49 282 participants, 5449 fractures, 730 hip fractures) of combined supplementation with vitamin D (daily doses of 400-800 IU) and calcium (daily doses of 1000-1200 mg) found a 6% reduced risk of any fracture (RR, 0.94; 95% CI, 0.89-0.99) and a 16% reduced risk of hip fracture (RR, 0.84; 95% CI, 0.72-0.97). Finally, 2 RCTs that assessed very high annual doses of vitamin D both showed an increase in the risk of fractures and falls among those allocated to the vitamin D group, reinforcing the conclusion that intermittent dosing regimens with high doses of vitamin D can cause toxic effects.

Based on these results, I will continue to proactively assess osteoporosis and fracture risk among my SNF patients. For those with high risk and those who agree to therapeutic interventions, I will use a combination of daily Vitamin D and calcium dosing, staying away from high intermittent vitamin dosing.

Yao P, Bennett D, Mafham M, et al. Vitamin D and Calcium for the Prevention of Fracture: A Systematic Review and Meta-analysis. AMAetopen.2019;2(12):e1917789.doi:<https://doi.org/10.1001/jamanetworkopen.2019.17789>

Keeping that Cholesterol Down Does Pay Off among Older Patients

Many recent research studies with varying results have created some confusion on the role of statins in cardiovascular and overall mortality outcomes among patients > 65 years of age. A recent study published in the Journal of American Geriatrics addressed this issue using a historical population-based cohort.

In this study of primary prevention among 19,518 older adults followed for 10 years, all-cause mortality rates were 34% lower among those who had adhered to statin treatment, compared with those who had not (hazard ratio [HR] = .66; 95% confidence interval [CI] = .56-.79). Adherence to statins was also associated with fewer atherosclerotic cardiovascular disease events (HR = .80; 95% CI = .71-.81). The benefit of statin use did not diminish among beyond age 75 and was evident for both women and men.

This is an important study with cautious applicability to my SNF patients. For patients who have high risk of cardiovascular events, this study provides me the evidence to continue their statin treatment. There will still be patients who I would not use or discontinue statins and that would include patients with poor life expectancy, personal choice, drug interactions and/or adverse effects.

Eilat-Tsanani, S., Mor, E., & Schonmann, Y. (2019). Statin Use Over 65 Years of Age and All-Cause Mortality: A 10-Year Follow-Up of 19 518 People. Journal of the American Geriatrics Society.