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Volume 23 (Issue 6) **June 3, 2019**

PREVENTING HIP FRACTURES IN THE ELDERLY

As people grow older, the occurrence of osteoporotic fracture increases. This can result in detrimental consequences such as functional decline, institutionalization, mortality and impoverishment. This issue of *CLIPs* briefly summarizes an article that reviews an approach to fracture prevention in elderly patients. If you need further information, please contact the Center for Healthcare Innovation and Patient Outcomes Research (CHIPOR) at chipor@samford.edu.

Berry SD, Kiel DP, Colon-Emeric C. Hip fractures in older adults 2019. *JAMA.* 2019 May 10. https://jamanetwork.com/journals/jama/fullarticle/2733663. Accessed May 21, 2019.

Introduction

- Younger patients are much more likely to be treated for osteoporosis compared to elderly patients.
- Current guidelines do not address treatment options in patients who have life expectancies of less than 10 years.
- Fracture risk calculators do not consider comorbidities or characteristics that are common in elderly patients that can affect the risk : benefit ratio when considering therapy for osteoporosis prevention.

Assessment of Fracture Risk

- The most commonly used predictor of fracture is the FRAX tool.
- Patients with a 10-year estimated risk of osteoporotic fracture of ≥20% have a high risk for fracture and those with a 10-20% risk are at moderate risk for fracture.
- The FRAX tool does not take into consideration important fracture risk factors common in the elderly such as falls, cognitive impairment, urinary incontinence, neurological conditions, and medications.
- When assessing fracture risk and deciding if pharmacotherapy is needed, additional tests need to be considered (e.g. cognition, vision, gait and balance, and polypharmacy).
- No information is available to guide how these characteristics should be factored into calculating fracture risk.
- If a patient is a candidate for pharmacological therapy and has abnormal findings from the additional assessments, the patient probably has a higher fracture risk and pharmacological therapy should be considered.

Assessment of Life Expectancy

- Standardized tools such as life tables or ePrognosis should be used to prevent overestimation of remaining life expectancy.
- The benefits of cancer screening may not be seen for 10 years; however, benefits from oral osteoporosis medications can occur in 6-12 months after taking the medications and the benefits of fall prevention may be seen immediately.
- The number needed to treat to prevent one hip fracture declines until the age of 80, and the effectiveness of preventing a fracture increases with advancing age.
- Some economic models suggest that treating elderly patients with life expectancies as low as 2 years may be cost-effective. If life expectancy for a patient is less than 1 year, pharmacologic treatment is not recommended.

Medication Selection

- The first line of therapy for osteoporosis is bisphosphonates and the number needed to treat to prevent 1 hip fracture is 200 in the elderly population.
- Pill burden and comorbidities (e.g., renal disease) should be evaluated when considering pharmacological treatment for these patients. Various formulations are available that may benefit certain patient populations, especially intravenous formulations for patients with poor oral adherence.
- There is limited data from post hoc analyses of studies that suggest that the osteoporosis medications are safe and effective in elderly patients.

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Collaborative Decisions

- Preventing hip fractures is a priority for elders. Approximately 80% of elderly women surveyed said that they would rather die than sustain a hip fracture that leads to institutionalization.
- Clinicians should help cognitively impaired patients or caregivers comprehend the risks and benefits of treatment.
- There are decision aids that can be used to help with treatment decisions and shared decision-making may help to increase treatment adherence in these patients.

Preventing Falls

- Every patient should receive a fall risk assessment and be counselled on how to prevent falls.
- Gait and balance assessments should be performed in anyone who has had a fall or has a fear of falling.
- If a patient has an impaired gait or balance, then a comprehensive assessment for fall risk factors should be performed, and the patient should be referred for physical therapy.
- The most common and identifiable fall risk factor is the medications the patient is prescribed.
- Discontinuing or decreasing the dose of cardiometabolic and psychoactive medications can be beneficial in preventing falls.
- Stopping medications that can cause falls and starting osteoporosis medication is appropriate for elderly patients with many comorbidities who want to prevent fractures.

Conclusion

- An individual's estimated fracture risk, life expectancy, and health priorities are all important factors for preventing falls and fractures in the elderly population.
- Pharmacological and non-pharmacological treatments should be considered for this population.