

FPIN's Clinical Inquiries

Evaluation of Hip Pain in Older Adults

MATTHEW M. VERRILL, MD; MARY N. HALL, MD; and BRIDGET LOVEN, MLIS, *Carolinas Healthcare System, Charlotte, North Carolina*

Clinical Inquiries provides answers to questions submitted by practicing family physicians to the Family Physicians Inquiries Network (FPIN). Members of the network select questions based on their relevance to family medicine. Answers are drawn from an approved set of evidence-based resources and undergo peer review. The strength of recommendations and the level of evidence for individual studies are rated using criteria developed by the Evidence-Based Medicine Working Group (<http://www.cebm.net/?o=1025>).

The complete database of evidence-based questions and answers is copyrighted by FPIN. If interested in submitting questions or writing answers for this series, go to <http://www.fpin.org> or email: questions@fpin.org.

A collection of FPIN's Clinical Inquiries published in *AFP* is available at <http://www.aafp.org/afp/fpin>.

Clinical Question

What is the appropriate evaluation of hip pain in patients 65 years and older?

Evidence-Based Answer

The evaluation of hip pain in patients 65 years and older should include a history and physical examination, followed by pertinent imaging studies. (Strength of Recommendation [SOR]: C, based on expert opinion.) Patients who have hip pain for more than four weeks or who have concerning historical features, signs, or symptoms require hip imaging with radiography. There are no trials comparing the accuracy of magnetic resonance imaging (MRI), computed tomography (CT), and bone scintigraphy. MRI should be used in patients with suspected acute fracture in whom plain radiography does not yield a definitive diagnosis. (SOR: C, based on one small case series.) If MRI is contraindicated or unavailable, CT or bone scintigraphy can be substituted. (SOR: C, based on expert opinion.)

Evidence Summary

Hip pain is common among older adults. In a cross-sectional study of 6,596 U.S. adults older than 60 years, 14.3 percent (95% confidence interval, 13.1 to 15.5 percent) reported significant hip pain on most days over a six-week period.¹ Nevertheless, research on the appropriate evaluation of hip pain is limited. Evaluation begins with a history and physical examination, which can detect musculoskeletal causes of hip pain (e.g., trochanteric bursitis, iliopsoas bursitis, piriformis syndrome, referred pain from the knee or spine).^{2,3} Experts recommend radiography in adults with hip pain of more than four weeks' duration or if there are worrisome findings on history or physical examination (*Table 1*).^{2,3}

Hip radiography can miss fractures. A retrospective chart review of 127 patients (103 female, mean age = 81.6 years) admitted for hip injury with normal hip radiography in the emergency department found that 18 patients (14 percent) were subsequently diagnosed with pelvic fractures, and eight (6 percent) were diagnosed with femoral neck fractures when evaluated with MRI or CT.⁴

A retrospective study was performed in 33 patients who had visited an emergency department in Copenhagen from June 2002 to May 2003, and who had clinically suspected hip fracture, negative or equivocal radiographic findings, and subsequent MRI.⁵ The study evaluated the accuracy of MRI in detecting hip fractures. A total of 28 women and five men (mean age = 79 years; range, 32 to 92 years) were included. MRI had a sensitivity of 100 percent and a specificity of 93 to 100 percent, depending on the experience of the radiologist.

Table 1. Indications for Imaging in Patients with Hip Pain

Apparent hip deformity
History of trauma
Inability to bear weight
Ineffective conservative treatment
Intermittent locking
Leg length inequality
Outcomes on follow-up
Physical examination findings
Reduced range of motion
Symptoms
Unexplained hip pain for longer than four weeks

Information from references 2 and 3.

Recommendations from Others

The American College of Radiology recommends initial imaging with radiography of the pelvis and anteroposterior and lateral radiography of the affected hip in patients with chronic hip pain or suspected fracture.⁶ If radiography is normal but clinical suspicion remains high for underlying pathology, hip MRI without contrast is recommended to evaluate for stress fracture, nondisplaced fracture, avascular necrosis, or soft tissue abnormality. If MRI is contraindicated and stress fracture is suspected, bone scintigraphy is the next recommended imaging modality.

Copyright Family Physicians Inquiries Network. Used with permission.

Address correspondence to Matthew M. Verrill, MD, at Matt.Verrill@carolinashealthcare.org. Reprints are not available from the authors.

Author disclosure: No relevant financial affiliations to disclose.

REFERENCES

1. Christmas C, Crespo CJ, Franckowiak SC, Bathon JM, Bartlett SJ, Andersen RE. How common is hip pain among older adults? Results from the Third National Health and Nutrition Examination Survey. *J Fam Pract*. 2002;51(4):345-348.
2. Schon L, Zuckerman JD. Hip pain in the elderly: evaluation and diagnosis. *Geriatrics*. 1988;43(1):48-62.
3. Bussi eres AE, Taylor JA, Peterson C. Diagnostic imaging practice guidelines for musculoskeletal complaints in adults—an evidence-based approach. Part 1. Lower extremity disorders. *J Manipulative Physiol Ther*. 2007;30(9):684-717.
4. Smith JE, Jenkin A, Hennessy C. A retrospective chart review of elderly patients who cannot weight bear following a hip injury but whose initial x rays are normal. *Emerg Med J*. 2009;26(1):50-51.
5. Verbeeten KM, Hermann KL, Hasselqvist M, et al. The advantages of MRI in the detection of occult hip fractures. *Eur Radiol*. 2005;15(1):165-169.
6. American College of Radiology. ACR Appropriateness Criteria: chronic hip pain. <http://www.acr.org/~/media/ACR/Documents/AppCriteria/Diagnostic/ChronicHipPain.pdf>. Accessed July 6, 2012. ■