The Patient Who Falls

"It's Always a Trade-off"

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Falls are common health events that cause discomfort and disability for older adults and stress for caregivers. Using the case of an older man who has experienced multiple falls and a hip fracture, this article, which focuses on community-living older adults, addresses the consequences and etiology of falls; summarizes the evidence on predisposing factors and effective interventions; and discusses how to translate this evidence into patient care. Previous falls; strength, gait, and balance impairments; and medications are the strongest risk factors for falling. Effective single interventions include exercise and physical therapy, cataract surgery, and medication reduction. Evidence suggests that the most effective strategy for reducing the rate of falling in community-living older adults may be intervening on multiple risk factors. Vitamin D has the strongest clinical trial evidence of benefit for preventing fractures among older men at risk. Issues involved in incorporating these evidence-based fall prevention interventions into outpatient practice are discussed, as are the trade-offs inherent in managing older patients at risk of falling. While challenges and barriers exist, fall prevention strategies can be incorporated into clinical practice.

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The Patient's Story

Mr Y, an 89-year-old retired salesman, lived independently until 3 years ago. He had a right humeral fracture in 2006 and a left hip fracture 3 months later. After hip fracture repair and rehabilitation, he moved in with his daughter, a physical therapist.

Mr Y's medical history includes coronary artery bypass grafting and porcine aortic valve replacement in 2003; dementia; hypertension; gout; peptic ulcer disease; macular degeneration; and bilateral hearing aids. In 1992, Mr Y fractured his right hip in a bar brawl; he used alcohol heavily until a few years ago.

On arrival at his daughter's home, Mr Y reported left hip pain and an unsteady gait. He became delirious when taking oxycodone ER, 10 mg every 12 hours. In June 2007, his daughter brought Mr Y to see Dr C, a geriatrician, who noted pruritus, chronic rhinorrhea, and weight loss. Mr Y scored 28 of 30 on the Folstein Mini-Mental State Examination[1]; he missed the date and recalled 2 of 3 objects at 5 minutes.[1] Mr Y's recall of 2 words, plus his abnormal clock drawing (eFigure, available at http://www.jama.com), indicated a positive screen for dementia.[2,3] Mr Y denied depressed mood or loss of interest with the 2-item depression screen.[4] He was independent in his basic activities of daily living (ADL) but dependent in his instrumental ADL (TABLE 1, footnote f).[5,6] His medications included aspirin, 81 mg; metoprolol XR, 100 mg; lisinopril, 40 mg; hydrochlorothiazide, 12.5 mg; simvastatin, 20 mg; omeprazole, 20 mg twice a day; allopurinol, 100 mg; acetaminophen/hydrocodone, 1 tablet as needed; docusate, 250 mg twice a day; and nitroglycerin, 0.4 mg sublingually for chest pain.

Mr Y's blood pressure was 148/61 mm Hg without orthostatic changes. He weighed 158 lb. A grade 3/6 systolic ejection murmur was present without signs of heart failure. Mr Y's strength and sensation were normal except for left hip and knee weakness. There was tenderness to palpation over the left greater trochanteric region; the hardware from his hip surgery was palpable. The Romberg test result was negative. A mobility screen (with Mr Y's results) is shown in the BOX.[7]

Results of urinalysis, complete blood cell count, and routine serum chemistries were normal. A left hip radiograph revealed nonunion and bony collapse. A magnetic resonance imaging scan of the brain revealed multiple infarcts.

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Dr C changed Mr Y's acetaminophen/hydrocodone to round-the-clock dosing, not to exceed 8 tablets daily, and prescribed vitamin D, 400 IU daily. In September 2007, an orthopedist injected corticosteroids in the area of the left greater trochanteric bursa. The pain decreased.

Mr Y completed 20 outpatient physical therapy (PT) sessions between October 2007 and June 2008. He was discharged from PT when he was no longer making progress. He used a 4-wheel walker.

Over the next few months, he continued to fall. One fall occurred after he took a cold medication containing diphen-

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