

In an accompanying editorial, Ansell⁵ commented that this work brought much-needed insight into the everyday real-world management of oral anticoagulation therapy. Ansell also called for better understanding of the manner in which other smaller practices fare in this regard.

Using the method described by Samsa et al,⁴ I reviewed the INR control of my 25 patients with atrial fibrillation (2000-2001) (Table 3, row 3). In comparison with the patients in Samsa's study, my patients were older (21 patients [84%] were age ≥ 70 years; 15 patients [60%] were age ≥ 75 years) and had greater comorbidity. Moreover, this degree of INR control was accomplished with a longer (mean) interval between blood tests, 24.9 days vs 22.2 days in Samsa et al⁴ (25 practices). The only disadvantage of the precise daily dosing system was the expense of 50% more tablet consumption.

Dennis M. Manning, MD
Mayo Clinic
Rochester, Minn

Maria-Teresa Cuddihy, MD, MPH
Peter C. Amadio, MD
L. Joseph Melton III, MD
Mayo Clinic
Rochester, Minn

1. Gage BF, Fihn SD, White RH. Warfarin therapy for an octogenarian who has atrial fibrillation. *Ann Intern Med.* 2001;134:465-474.
2. Ansell JE. Oral anticoagulant therapy—50 years later. *Arch Intern Med.* 1993;153:586-596.
3. Wong W, Wilson Norton J, Wittkowsky AK. Influence of warfarin regimen type on clinical and monitoring outcomes in stable patients in an anticoagulation management services. *Pharmacotherapy.* 1999;19:1385-1391.
4. Samsa GP, Matchar DB, Goldstein LB, et al. Quality of anticoagulation management among patients with atrial fibrillation: results of a review of medical records from 2 communities. *Arch Intern Med.* 2000;160:967-973.
5. Ansell JE. The quality of anticoagulation management [editorial]. *Arch Intern Med.* 2000;160:895-896.

Patient Barriers to Osteoporosis Interventions After Fracture

To the Editor: We are writing in response to the recently published article "Barriers to Osteoporosis Identification and Treatment Among Primary Care Physicians and Orthopedic Surgeons," by Simonelli et al.¹ The authors concluded that clarifying the respective responsibilities of orthopedists and internists for the diagnosis and management of underlying osteoporosis could improve the care of patients with fragility fractures. However, we recently evaluated this possibility by designing a practice intervention whereby Olmsted County, Minnesota, residents with low-impact trauma fractures of the distal forearm were routinely referred for bone densitometry and physician evaluation.² The treating orthopedists supported this approach, and the patients' primary care physicians were able to discuss osteoporosis testing and management: 83% reported no difficulty convincing patients of the importance of osteoporosis treatment, and 94% were comfortable reviewing the treatment options with the patients. Despite vigorous efforts, we only increased the rate of osteoporosis treatment after forearm fracture from 17% to 45%. This observation shows that testing and referral may be

insufficient to solve the problem of undertreatment. Instead, we found considerable patient resistance to osteoporosis diagnosis and treatment, despite the fact that patients with such fractures are known to be at high risk for future osteoporotic fractures³ and treatment in this group is cost-effective.⁴ Although the problem of underrecognition of fragility fractures by patients and physicians alike has been widely recognized in the past few years,⁵⁻¹¹ simply educating primary care physicians about the standard of postfracture care is not, in our opinion, a likely solution to this complex problem. This is a rich area for investigation, and much more work is needed to identify the barriers to treatment at the patient level, as well as at the provider and system levels, to facilitate referral, treatment, and adherence to advice by patients with osteoporotic fractures.

1. Simonelli C, Killeen K, Mehle S, Swanson L. Barriers to osteoporosis identification and treatment among primary care physicians and orthopedic surgeons. *Mayo Clin Proc.* 2002;77:334-338.
2. Cuddihy M-TMP, Amadio PC, Khosla S, et al. A population based, prospective, post-fracture osteoporosis intervention [abstract]. *Arthritis Rheum.* 2000;43(suppl):S198. Abstract 790.
3. Klotzbuecher CM, Ross PD, Landsman PB, Abbott TA III, Berger M. Patients with prior fractures have an increased risk of future fractures: a summary of the literature and statistical synthesis. *J Bone Miner Res.* 2000;15:721-739.
4. Eddy D, Johnston CC, Cummings SR, et al. Osteoporosis: review of the evidence for prevention, diagnosis, and treatment and cost-effectiveness analysis. *Osteoporos Int.* 1998;8(suppl 4):S3-S82.
5. Hajcsar E, Hawker G, Bogoch ER. Investigation and treatment of osteoporosis in patients with fragility fractures. *CMAJ.* 2000;163:819-822.
6. Kahn S, de Geus C, Holroyd B, Russell AS. Osteoporosis follow-up after wrist fractures following minor trauma. *Arch Intern Med.* 2001;161:1309-1312.
7. Kamel H, Hussain MS, Tariq S, Perry HM, Morley JE. Failure to diagnose and treat osteoporosis in elderly patients hospitalized with hip fracture. *Am J Med.* 2000;109:326-328.
8. Morote S, Kanterewicz E, Villanueva A, Garcia MJ, Carballido E, Yanez A. Diagnosis and treatment of postmenopausal osteoporosis after a Colles' fracture [in Spanish]. *Aten Primaria.* 2000;25:422-424.
9. Pal B, Morris J, Muddu B. The management of osteoporosis-related fractures: a survey of orthopaedic surgeons' practice. *Clin Exp Rheumatol.* 1998;16:61-62.
10. Cuddihy MT, Gabriel SE, Crowson CS, et al. Osteoporosis intervention following distal forearm fractures: a missed opportunity? *Arch Intern Med.* 2002;162:421-426.
11. Freedman KB, Kaplan FS, Bilker WB, Strom BL, Lowe RA. Treatment of osteoporosis: are physicians missing an opportunity? *J Bone Joint Surg Am.* 2000;82-A:1063-1070.

In reply: We appreciate the comments of Dr Cuddihy and colleagues. Through an educational effort promoting post-fracture attention to osteoporosis, they report that they were able to achieve a 2.6-fold increase (ie, from 17% to 45%) in osteoporosis treatment in an outpatient setting. This is

admirable in a population at significantly higher-than-average risk for future fracture.¹ Our previously reported educational effort directed at health care providers and patients achieved a 30% treatment rate at 1 year after low-impact fractures requiring hospitalization.² This prompted the current survey.

We agree this is a complex problem, and although an initial barrier may be clarifying the role of responsibility, clearly additional barriers exist beyond identifying the responsible party and educating health care providers. Patient reluctance reported by Dr Cuddihy et al, however, is somewhat contrary to our experience—that most patients who began treatment with calcium, vitamin D, and/or specific osteoporosis medication at the time of their acute fracture remained compliant with medication at 1 year.²

Christine Simonelli, MD
HealthEast Clinics
Woodbury, Minn

Kathleen Killeen, MOT
Leah Swanson, RN, GNP
HealthEast Orthopaedic Services
St Paul, Minn

Susan Mehle, BS
HealthEast Medical Research Institute
St Paul, Minn

1. Klotzbuecher CM, Ross PD, Landsman PB, Abbott TA III, Berger M. Patients with prior fractures have an increased risk of future fractures: a summary of the literature and statistical synthesis. *J Bone Miner Res.* 2000;15:721-739.
2. Simonelli C, Chen Y, Weiss T, Killeen K, Morancey J, Swanson L. Lack of attention to osteoporosis in low-impact fracture patients despite a comprehensive education intervention. Presented at: National Osteoporosis Foundation; March 2002; Honolulu, Hawaii.

Strategies in the Treatment of Migraine

To the Editor: The article on the diagnosis and treatment of migraine by Drs Cady and Dodick¹ was interesting, and we offer the following comments. The authors discussed the step care, staged care, and stratified care models of management but failed to include 2 recent important studies^{2,3} that showed that a stratified care strategy is highly cost-effective with improved clinical outcomes in the primary care setting compared with the step care approach.

In the treatment section of their review, Cady and Dodick state that antiemetics may be effective only when migraines are associated with severe nausea. In clinical practice, nausea is observed in up to 90% of migraineurs. Thus, the use of antiemetics as adjunctive therapy is common rather than infrequent, although the entire extent of benefit and mechanism of action are uncertain. Well-conducted clinical trials have shown that oral lysine acetylsalicylate plus metoclopramide is an effective option for early migraine therapy and may even be comparable to oral sumatriptan.⁴

Furthermore, nonpharmacological therapies like relaxation training with or without thermal biofeedback, electromyographic biofeedback, and cognitive-behavioral therapy are reported to be effective in preventing migraines compared with placebo and therefore play an increasingly crucial role in successful migraine management.

Rahul Gupta, MD
Seema Gupta, MD
Internal Medicine & Headache Clinic
Floral, Ala

1. Cady R, Dodick DW. Diagnosis and treatment of migraine. *Mayo Clin Proc.* 2002;77:255-261.
2. Williams P, Dowson AJ, Rapoport AM, Sawyer J. The cost effectiveness of stratified care in the management of migraine. *Pharmacoeconomics.* 2001;19:819-829.
3. Lipton RB, Stewart WF, Stone AM, Lainez MJ, Sawyer JP. Stratified care vs step care strategies for migraine: the Disability in Strategies of Care (DISC) study: a randomized trial. *JAMA.* 2000;284:2599-2605.
4. Tfelt-Hansen P, Henry P, Mulder LJ, Scheldewaert RG, Schoenen J, Chazot G. The effectiveness of combined oral lysine acetylsalicylate and metoclopramide compared with oral sumatriptan for migraine. *Lancet.* 1995;346:923-926.

In reply: We appreciate the comments of Drs Gupta and Gupta regarding step and stratified care and agree that the studies on stratified care show pharmacoeconomic superiority over step care. However, a substantial portion of our article was devoted to clinical variability of migraine attacks. Inherent in this observation is the belief that treatment needs vary based on attack characteristics and that patients need to receive enough education to participate in their own therapeutic decision making. This approach is termed *patient-centered stratified care*.

The studies^{1,2} cited by Drs Gupta and Gupta supporting stratified care are important but have a bias in their design. The primary end point was 2-hour pain relief. The within-attack step care was designed for patients to “step up” to zolmitriptan at 2 hours if their initial treatment was ineffective. Therefore, patients were by definition “treatment failures” at 2 hours if they used the step-within-attack approach. Further examination of the 4-hour data in the DISC study² reveals numerical superiority for the step-within-attack group. In addition, the stratified model used in these studies is based on waiting for migraine sufferers to experience substantial disability before they are initially stratified to triptan therapy.

We believe effective, early treatment is warranted based on the characteristics of the individual patient’s attack, not on population characteristics. Thus, we support a management model that includes an individual patient’s decision in selecting the most appropriate treatment for each attack. This is particularly important given the range of migraine severity within individual patients and their previous experience with treating attacks earlier while pain intensity is mild.

Regarding the use of antiemetics, we agree they may have an important adjunctive role in the early treatment of