A 57-YEAR-OLD WOMAN WITH ACHING HANDS

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CONTEXT
This case study represents the upper right quadrant of the 2 x 2 risk stratification/therapy selection matrix described in the interview with A. Mark Fendrick, MD (see Figure, page S516). The patient is at risk for gastrointestinal (GI) complications related to the use of non-steroidal anti-inflammatory drugs (NSAIDs) and does not use or require aspirin prophylaxis to protect against cardiovascular events.

PRESENTATION
Eleanor is a 57-year-old art teacher at a private elementary/intermediate school. She is also an artist whose exhibited works include watercolors, pen-and-ink drawings, and calligraphy. Except for a longstanding history of irritable bowel syndrome, which she keeps at bay with a high-fiber diet, she is healthy and has no traditional risk factors for coronary artery disease.

For the past 2 months, however, she has been having worsening pain and stiffness in both hands and wrists, particularly the left, her dominant hand. She has tried aspirin and over-the-counter ibuprofen, both of which relieved the pain and stiffness, but also caused epigastric discomfort. Acetaminophen is gentler on her stomach but provides little relief, and Eleanor is now finding it increasingly difficult to demonstrate various art techniques to her students and pursue her own artistic endeavors. At present, she is not taking aspirin or ibuprofen and has no epigastric discomfort.

MEDICAL HISTORY
In addition to irritable bowel syndrome, Eleanor has had occasional migraines since her late teens, which she treats with over-the-counter pain relievers. She underwent cholecystectomy at age 31 years, after 2 attacks of biliary pain. Many years later, she experienced epigastric pain that differed from the pain that led to cholecystectomy. An upper GI series demonstrated a duodenal ulcer. Eleanor does not recall if she was taking aspirin or any NSAIDs at the time. She was treated with cimetidine for 2 months.

PHYSICAL EXAMINATION
Eleanor is 5 ft, 1 in tall and weighs 112 lb. Her vital signs are normal. The physical examination is unremarkable, except for tenderness in both wrists and the joints of several fingers, particularly the thumbs. There are no joint deformities.

LABORATORY FINDINGS
Recent blood chemistry, lipid profile, and liver enzyme test results were in the normal range. However, the erythrocyte sedimentation rate was slightly elevated, and the hemoglobin level was at the lower limit of normal. Urinalysis findings were normal. Recent bone mineral densitometry revealed mild osteopenia in the upper spine and at the hip. Radiography of the hands and wrists revealed only soft-tissue swelling.

TREATMENT
Therapy with rofecoxib was initiated at a dose of 12.5 mg daily. Eleanor was instructed to report any abdominal pain and whether the cyclooxygenase-2 (COX-2) selective inhibitor was providing adequate

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pain relief, and to schedule a follow-up appointment 2 months later.

During the follow-up visit, Eleanor reported that rofecoxib provided better relief from pain and morning stiffness than acetaminophen and did not cause any bothersome gastrointestinal symptoms. However, she also noted that "Aspirin and ibuprofen did a better job. Too bad they upset my stomach." She asks whether the treatment plan should be modified.

**Discussion**

Because Eleanor has a history of duodenal ulcer, she is at increased risk for NSAID-related GI complications. It is not known whether she was taking aspirin or NSAIDs when she had the ulcer (she has a history of migraines, for which she takes over-the-counter pain relievers), and she has not been tested for *Helicobacter pylori*. She should be tested for *H. pylori* and should receive eradication therapy if the test is positive, in order to decrease her risk of recurrent peptic ulcer disease. However, *H pylori* and NSAIDs should probably be considered independent risk factors for peptic ulcer disease, and she should be considered at risk for NSAID-related GI complications regardless of the *H pylori* test results. Eleanor does not have risk factors for coronary artery disease and does not require prophylactic aspirin therapy.

For patients such as Eleanor who do not require aspirin but are at increased risk for NSAID-related GI complications, monotherapy with a COX-2 selective inhibitor is a reasonable initial approach. These drugs have been found to be similarly effective and safer to the GI tract than traditional NSAIDs. In this case, Eleanor's symptoms were better controlled with ibuprofen and aspirin compared with rofecoxib 12.5 mg daily, but the nonselective agents caused dyspepsia. Dyspepsia without ulceration is much more common than true peptic ulceration with these agents, but the distinction between these conditions is not possible without endoscopy or radiographic tests.

There are several options at this point, and Eleanor should also be given certain cautions. She could try taking rofecoxib 25 mg daily. If Eleanor then reports that her symptoms are still not as well controlled as with traditional NSAIDs and she wishes to try these agents again, then she should be given concomitant gastroprotective therapy with a proton pump inhibitor (PPI), which could treat dyspeptic symptoms as well as decrease the risk of peptic ulceration. If she does not wish to try rofecoxib at the higher dose, she could be switched to a traditional NSAID combined with a PPI at this point. Notably, Eleanor should be instructed that if she is not taking a gastroprotective agent, she should avoid use of over-the-counter pain relievers that contain aspirin or NSAIDs (eg, for her migraines). She should also be warned that even with a gastroprotective agent, the risk of NSAID-related GI complications is not eliminated.