Randomization was by household cluster so that all members of the same family received the same therapy. Of the 955 household contacts (377 households), 493 were randomized by household cluster to receive 75 mg of oseltamivir and 462 were randomized to receive placebo once daily for seven days, with therapy initiated within 48 hours of the first reported symptoms. Primary contacts did not receive antiviral therapy. Influenza was defined as a temperature of at least 37.2° C (99.0° F), at least one respiratory symptom and at least one constitutional symptom during a single 24-hour period, along with laboratory confirmation.

Among household contacts of the 377 primary contacts with symptoms, oseltamivir reduced the incidence of clinical influenza with 89 percent protective efficacy. Of the 377 primary contacts, 163 (43 percent) had laboratory-confirmed influenza. Of these 163 primary contacts, the overall efficacy of oseltamivir against clinical influenza was 89 percent for individuals and 84 percent for households. Oseltamivir was well tolerated, with gastrointestinal tract effects reported in 9.3 percent of those receiving oseltamivir versus 7.2 percent of those receiving placebo. In addition, oseltamivir inhibited viral shedding.

The authors conclude that 75 mg of oseltamivir taken once daily for seven days effectively protects close contacts against influenza if it is started within 48 hours of exposure to a symptomatic case of influenza. Although the primary contacts did not take oseltamivir, doing so would likely reduce the transmission risk further by decreasing viral shedding.

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Welliver R, et al. Effectiveness of oseltamivir in preventing influenza in household contacts. A randomized controlled trial. JAMA February 14, 2001;285:748-54.

Surgery vs. Omeprazole in Treatment of GERD

Gastroesophageal reflux disease (GERD) is a common chronic condition ranging from mild heartburn to erosive damage of the esophageal lining. Symptoms can be severe, causing a marked reduction in overall quality of life. Medical treatment has improved with the use of proton pump inhibitor (PPI) therapy, which results in rapid relief of symptoms and esophageal healing in most patients. With prolonged therapy, these patients can remain in clinical remission for longer periods. Antireflux surgery, another efficacious therapy, has previously been demonstrated to be superior to non–PPI-based medical therapies in the long-term management of GERD.

Lundell and associates performed a randomized clinical trial comparing omeprazole PPI therapy and antireflux surgery. Patients with chronic GERD symptoms and documented esophagitis were treated with 20 mg of omeprazole, usually for four to eight weeks, with dosages increased to 40 mg in patients with incomplete response. This therapy to control symptoms and heal esophagitis lasted no longer than four months. A total of 310 patients who were taking omeprazole to control their symptoms were randomized to receive omeprazole treatment or antireflux surgery. The type of antireflux surgery performed was determined by the operating surgeon, but conventional total or partial fundoplication was recommended. Patients underwent endoscopic evaluation before randomization and during follow-up at 12, 36 and 60 months. Symptoms were also assessed regularly. Treatment failures were defined as (1) moderate or severe heartburn during the seven days before the respective visit, (2) isolated esophageal erosions on endoscopy, (3) moderate or severe dysphagia occurring beyond the first three postoperative months, (4) randomization to surgery and subsequently requiring a re-operation or more than eight weeks of omeprazole to control symptoms, (5) randomization to omeprazole and requiring antireflux surgery to control symptoms as determined by the treating physician and (6) randomization to omeprazole with the patient preferring antireflux surgery during the course of the study.

The treatment failure rate was significantly higher in the omeprazole group during the five years of follow-up. When, in cases of ▸

symptom relapse, the omeprazole dosage was adjusted up to 60 mg daily, the relapse curves more closely approached each other. Over the same period, no differences were found between the two groups in preventing Barrett's esophagus, strictures requiring dilation or quality of life assessment.

The authors conclude that antireflux surgery seems to be more effective than omeprazole therapy in controlling relapse symptoms and in maintaining patients in clinical remission. Surgical therapy was associated with increased flatus, inability to belch and dysphagias, but these symptoms did not affect the quality-of-life assessments.

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Lundell L, et al. Continued (5-year) followup of a randomized clinical study comparing antireflux surgery and omeprazole in gastroesophageal reflux disease. J Am Coll Surg February 2001;192:172-81.

Optimal Diagnostic Tests in Primary HIV-1 Infection

Primary infection with human immunodeficiency virus (HIV) can occur with diverse clinical symptoms. Recognition of this syndrome in at-risk persons should prompt antibody testing and virologic assay, since patients with primary infection are just developing HIV antibodies. Diagnosing primary infection may decrease HIV transmission and enable consideration of early treatment. The optimal method for early diagnosis has not yet been determined. Daar and colleagues reviewed the sensitivity and specificity of virologic tests and presenting clinical symptoms in diagnosing primary HIV infection.

Three cohorts involving 436 patients potentially exposed to HIV infection and with compatible symptoms of primary infection were tested using slightly differing strategies. Primary infection was defined as a confirmed positive virologic test result with an HIV RNA level greater than 10,000 copies per mL with either a negative HIV antibody assay result or an indeterminate Western blot test result.

Combining fever, myalgia and rash increased the predictive value of symptoms, but no combination of symptoms identified more than 75 percent of patients with primary infection. HIV RNA assays were highly sensitive but associated with lower specificity and therefore yielded more false-positive results. The p24 antigen assay had a sensitivity of 88.7 percent for primary HIV infection compared with a sensitivity of 100 percent for the HIV RNA assay. The overall specificity of tests for HIV RNA and p24 antigen was 97.4 percent and 100 percent, respectively.

The authors conclude that the best screening diagnostic test to evaluate patients with suspected primary HIV infection is HIV RNA testing if resources are unlimited, even though the cost of evaluating and providing post-test counseling to false-positive patients is high. An alternative strategy would be to use only assays for p24 antigen, which identify more than 90 percent of infected patients with negative results on HIV antibody tests or indeterminate Western blot.

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Daar ES, et al. Diagnosis of primary HIV-1 infection. Ann Intern Med January 2, 2001;134:25-9.

EDITOR'S NOTE: The period of primary HIV infection is directly following HIV transmission. The most common presentation, when symptoms are present, is a mononucleosis-like syndrome with fever, chest pain, lymphadenopathy and skin rash. Less common symptoms include other flu-like manifestations, lymphocytic meningitis and facial paralysis. When this nonspecific picture is present, family physicians must consider the possibility of primary HIV infection. A history of potential exposure should be solicited, and HIV testing should be performed. The presence of HIV antibody during this time may signify a chronic infection. Testing should include an antibody test as well as either p24 antigen or HIV RNA (viral load) testing. Patients are highly infectious during this period of rapid viral replication and high blood virus counts, and appropriate preventive measures should be taken.—R.S. ■