

and rifabutin (described in previous section). Prophylactic drug therapy is recommended to be lifelong. For treatment, a 3-drug regimen of a macrolide (azithromycin 250 mg daily or clarithromycin 1000 mg daily), rifabutin (300 mg daily), and ethambutol (25 mg/kg/d for 2 months, then 15 mg/kg/d) is often used. The drugs may also be given 2 or 3 times weekly. Drug dosages are the same for intermittent regimens except that the larger dose of ethambutol is continued throughout. Streptomycin 500 to 1000 mg twice weekly is usually added for the initial 3 months of treatment when extensive MAC disease is present.

Nursing Process

Assessment

Assess for latent or active tuberculosis infection:

- For latent infection, identify high-risk clients (ie, people who are close contacts of someone with active tuberculosis; are elderly or undernourished; have diabetes mellitus, silicosis, Hodgkin's disease, leukemia, or AIDS; are alcoholics; are receiving immunosuppressive drugs; or are immigrants from Southeast Asia and other parts of the world where the disease is endemic).
- For active disease, clinical manifestations include fatigue, weight loss, anorexia, malaise, fever, and a productive cough. In early phases, however, there may be no symptoms. If available, check diagnostic test reports for indications of tuberculosis (chest x-ray, tuberculin skin test, and sputum smear and culture).
- In children, initial signs and symptoms may occur within a few weeks after exposure, before skin tests become positive, and resemble those of bacterial pneumonia. In addition, indications of disease in lymph nodes, GI and urinary tracts, bone marrow, and meninges may be present.
- In older adults, signs and symptoms of tuberculosis are often less prominent than in younger adults, or similar to those in other respiratory disorders. Thus, an older adult is less likely to have fever, a positive skin test, significant sputum production, hemoptysis, or night sweats. However, mental status changes and mortality rates are higher in older than in younger adults.
- In clients with HIV infection, skin tests showing 5 mm of induration are considered positive. In addition, disease manifestations in clients with AIDS differ from those of people with undamaged immune systems. For example, malaise, weight loss, weakness, and fever are prominent. Other symptoms often resemble those of bacterial pneumonia, involve multiple lobes of the lungs, and involve extrapulmonary sites of infection.
- Assess candidates for antitubercular drug therapy for previous exposure and reaction to the primary drugs and for the current use of drugs that interact with the primary drugs.
- Assess for signs and symptoms of MAC disease, especially in clients with advanced HIV infection who have a CD4+ cell count of 100/mm³ or less.

Nursing Diagnoses

- Anxiety or Fear related to chronic illness and long-term drug therapy
- Deficient Knowledge: Disease process and need for treatment
- Noncompliance related to adverse drug effects and need for long-term treatment
- Deficient Knowledge: Consequences of noncompliance with the drug therapy regimen
- Risk for Injury: Adverse drug effects

Planning/Goals

The client will:

- Take drugs as prescribed
- Keep appointments for follow-up care
- Report adverse drug effects
- Act to prevent spread of tuberculosis

Interventions

Assist clients to understand the disease process and the necessity for long-term treatment and follow-up. This is extremely important for the client and the community, because lack of knowledge and failure to comply with the therapeutic regimen lead to disease progression and spread. The American Lung Association publishes many helpful pamphlets, written for the general public, that can be obtained from a local chapter and given to clients and their families. Do not use these as a substitute for personal contact, however.

Use measures to prevent the spread of tuberculosis:

- Isolate suspected or newly diagnosed hospitalized clients in a private room for 2 or 3 weeks, until drug therapy has rendered them noninfectious.
- Wear masks with close contact, and wash hands thoroughly afterward.
- Have clients wear masks when out of the room for diagnostic tests.
- Assist clients to take antitubercular drugs as prescribed, for the length of time prescribed.

Evaluation

- Observe for improvement in signs and symptoms of tuberculosis and MAC disease.
- Interview and observe for adverse drug effects; check laboratory reports of hepatic and renal function, when available.
- Question regarding compliance with instructions for taking antitubercular and anti-MAC drugs.

PRINCIPLES OF THERAPY

Drug-Susceptible Tuberculosis

1. Sputum culture and susceptibility reports require 6 to 8 weeks because the tubercle bacillus multiplies slowly. Consequently, initial drug therapy is based on other factors, such as the extent of disease, whether the