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measles Search

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Measles

Updated 2013 Oct 07 11:37:00 AM: Society for Healthcare Epidemiology of America (SHEA) guideline on infection prevention and control in residential facilities for pediatric patients and their families (Infect Control Hosp Epidemiol 2013 Oct) view update | Show more updates

General Information

Causes and Risk Factors

Complications and Associated Conditions

Complications:

- complications rare, occur especially in malnourished or immunocompromised children
- thrombocytopenic purpura, 5-15% pneumonia (primary and secondary bacterial), bacterial otitis media, croup, bronchitis, bronchiolitis, diarrhea
- severe mouth ulceration - usually due to secondary herpes infection, treat with regular mouth washes with clean water and apply 1% gentian violet to mouth lesions
- rarely interstitial giant cell pneumonia, conjunctivitis, myocarditis, hepatitis, acute glomerulonephritis, 1/1,000 encephalomyelitis (10% mortality), pericarditis
- subacute sclerosing panencephalitis (SSPE)
  - defective M protein spike affecting central nervous system, especially limbic system
  - incidence < 6 per million in most countries, but 56 per million in Papua New Guinea in 1990, possibly due to highly neurotropic measles virus (Epidemiol Infect 2003 Oct;131(2):887 in BMJ 2003 Nov 15;327(7424):1176)
  - case presentation of subacute sclerosing panencephalitis secondary to measles virus infection can be found in N Engl J Med 2007 Aug 9;357(6):589
- delayed-type hypersensitivity (DTH) against tuberculin may be lost temporarily (measles can suppress T cell function)
- most deaths follow complications and often associated with malnutrition
- 3 cases of acute renal failure with neurologic impairment in adults have been described (Lancet 1999 Sep 18;354(9183):992 EBSCOhost Full Text)
- measles inclusion body encephalitis is rare complication in immunocompromised host typically 1 year after measles illness or vaccination, case report in patient with stem ce transplantation (Pediatrics 2004 Nov;114(5):e657 EBSCOhost Full Text full-text)

Associated conditions:

- atypical measles syndrome with previous exposure to killed vaccine
  - high fever, pneumonia, rash (urticarial then maculopapular with petechiae)
  - mainly in patients immunized with killed measles vaccine, given from 1963-1967
  - extremely high measles Ab titer early in illness supports diagnosis, viral culture useless
- measles associated with increased lifetime risk for atopy (eczema, rhinitis, asthma) in cross-sectional nationwide study in Finland of 547,910 persons 14 months to 19 years 2000 Jan 19;283(3):343), editorial can be found in JAMA 2000 Jan 19;283(3):394

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a protective immune response. Travel in the developing world or contact with individuals arriving from the developing world increases the risk of exposure to measles. (See 'Effect of immunity' above.)

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UPTODATE

for use in individuals who are immunocompromised or who have CD4 counts < 200; it is not recommended for patients who are HIV-positive or who have AIDS. However, a randomized clinical trial is currently evaluating the use of Zostavax in patients with HIV disease[2,3,4,5,7]

What We Can Do

- Learn about HZ and HIV infection so you can accurately assess your patients' personal characteristics and health education needs; share this information with your colleagues
  - Maintain universal precautions when treating all patients with HZ
  - Clinical staff members who are susceptible to VZV should not care for patients with VZV infections
- Closely monitor patients with HZ and HIV infection or AIDS for potential complications and adverse reactions to the prescribed drug regimen
- Educate patients about prevention
  - Recommend that patients who are HIV-positive who are exposed to VZV and who have no history of chickenpox, negative anti-varicella immune globulin (IgG) blood test, or both, receive the varicella **zoster** IgG, ideally within 48 hours, but no later than 96 hours, after exposure
  - Discuss the varicella vaccine with your patients who have not had chickenpox; encourage them to talk with their treating clinician about receiving the vaccine, as appropriate; vaccinate patients, as prescribed
- Provide patients with written information on HIV and HZ—including treatment risks and benefits and potential complications—and emphasize the importance of continued medical surveillance and seeking immediate medical attention for adverse drug effects or new or worsening signs and symptoms
- Provide emotional support to patients who are HIV-positive and have HZ; request referral to a mental health clinician for counseling on coping strategies, as appropriate
- Request referral to a social worker for identification of local resources for appropriate support groups, educational programs, in-home services, or hospice
- Collaborate with your hospital's continuing education department to provide education about HZ and HIV for clinicians of all specialties

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Food for Thought

- The benefit of vaccinating patients who have already experienced a bout of HZ has been unclear; now, researchers who conducted a recent retrospective study of 1,036 immunocompetent patients 60 years of age or older found that varicella vaccination may not reduce the short-term risk of recurrent HZ (Tseng et al., 2012)

Red Flags

- Zostavax should not be given to patients who have had anaphylactic reaction to gelatin, neomycin, or other components of the vaccine; have a weakened immune system (e.g., due to blood or bone cancer or to HIV/AIDS with T-cell count < 200); or are receiving medical treatments that suppress the immune system

- **Varivax should not be given to women for 3 months prior to pregnancy or during pregnancy**

What Do I Need to Tell the Patient/Patient's Family?

- Review with patient/family the signs and symptoms of HZ, its complications, and adverse effects of medications; advise patients to seek immediate medical attention for new or worsening signs or symptoms; emphasize the importance of regular medical surveillance
- Advise patients to get plenty of rest and to avoid strenuous activities while recuperating; take a cool bath or use wet compresses on blisters to relieve itching and pain; and take nonprescription analgesics (e.g., ibuprofen, naproxen), use calamine lotion, and oral antihistamines (diphenhydramine)

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SHINGLES QUICK LESSON

Lippincott's Nursing Drug Guide 2012

cyclosporine, digoxin, doxycycline, fluoroquinolones, nifedipine, zolpidem, quinidine, corticosteroids, hormonal contraceptives, methadone, oral anticoagulants, oral sulfonylureas, theophyllines, phenytoin, cyclosporine, ketoconazole, verapamil

Drug-lab test • Rifampin inhibits standard assays for serum folate and vitamin B_{12}

Nursing Considerations

Assessment

- **History:** Allergy to any rifamycin, acute hepatic disease, pregnancy, lactation
- **Physical:** Skin color, lesions; T; gait, muscle strength; orientation, reflexes, ophthalmologic examination; liver evaluation; CBC, LFTs, renal function tests, urinalysis

Interventions

- Administer on an empty stomach, 1 hr before or 2 hr after meals.
- Administer in a single daily dose.
- Consult pharmacist for rifampin suspension for patients unable to swallow capsules.
- Prepare patient for the reddish-orange coloring of body fluids (urine, sweat, sputum, tears, feces, saliva); soft contact lenses may be permanently stained; advise patients not to wear them during therapy.

Warning Arrange for follow-up visits for liver and renal function tests, CBC, and ophthalmologic examinations.

Teaching Points

- Take drug in a single daily dose. Take on an empty stomach, 1 hour before or 2 hours after meals.
- Take this drug regularly; avoid missing any doses; do not discontinue this drug without consulting your health care provider.
- Have periodic medical checkups, including eye examinations and blood tests, to evaluate the drug effects.
- You may experience these side effects: Reddish orange coloring of body fluids (tears, sweat, saliva, urine, feces, sputum; stain will wash out of clothing, but soft contact lenses may be permanently stained; do not wear them); nausea, vomiting, epigastric distress; skin rashes or lesions; numbness, tingling, drowsiness, fatigue (use caution if driving or operating dangerous machinery; use precautions to avoid injury).
- Report fever, chills, muscle and bone pain, excessive tiredness or weakness, loss of appetite, nausea, vomiting, yellowing of skin or eyes, unusual bleeding or bruising, skin rash or itching.

LIPPINCOTT'S NURSING DRUG GUIDE RIFAMPIN