
4 Infectious Diseases

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4.1. INTRODUCTION

Psychiatric practice comprises a spectrum patients who may present with a variety of infectious syndromes. It is hoped that this chapter will provide insight into the basics of management and a perspective toward appropriate referral.

4.2. FEVER

4.2.1. Definition

Fever is an elevation of body temperature above the normal body variation (greater than 37.4° C or 99.2° F orally). It is appropriate to adjust upwardly a rectal, core, or tympanic temperature by approximately 0.6° C or 1° F.

4.2.2. Signs and Symptoms

Associated findings include a rise in pulse and respiratory rate. Appropriate history would include seeking signs of respiratory, gastrointestinal, urinary, cutaneous, or central nervous system (CNS) sources of infection. Generally, in younger adults the source of fever will be an infection and more commonly viral, while in older adults one also needs to consider noninfectious causes including drug fever, pulmonary embolus, and rheumatologic disorders, as well as malignancy, in addition to the above potentially infected anatomic sites.

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4.2.3. Preliminary Workup

Workup could include, in addition to auscultatory exam of the lungs, examination of the abdomen and lower extremities, a chest radiograph, and a urinalysis, possibly with a complete blood count.

4.2.4. Differential Diagnosis

When the patient has no site-specific symptoms, it is appropriate to consider a viral syndrome as the most likely etiology. However, in the elderly, medication toxicity must be considered, in addition to other noninfectious etiologies. Any patient who has an artificial intravascular access device in place must also undergo culture of this device as a possible source of fever.

4.2.5. Common Treatments

Generally, the fever should not be treated expectantly unless the patient has significant cardiac or pulmonary compromise. The source of the infection should be sought and treatment appropriately rendered, perhaps with a specific antimicrobial.

4.3. NAUSEA, VOMITING, AND DIARRHEA SYNDROMES

4.3.1. Definition

The potential syndromes to be differentiated include mild afebrile illness with associated watery diarrhea, and a severe febrile illness with vomiting, headache, and constitutional symptoms with or without associated (bloody) diarrhea.

4.3.2. Signs and Symptoms

Patients would complain of being nauseated after a recent meal or after an unusual exposure, with or without associated diarrhea and fever.

4.3.3. Preliminary Workup

The patient should have a stool examination within 30 minutes of collection for fecal leukocytes or a fecal lactoferrin evaluation. If positive, this would indicate an inflammatory diarrhea, while if it is negative, with appropriate collection such a result

would indicate a noninflammatory diarrhea. Nausea and vomiting syndromes must be viewed in the context of other complaints.

4.3.4. Differential Diagnosis

The differential of nausea and vomiting syndromes would include acute food poisonings (due to *Staphylococcus aureus*, *Bacillus cereus*, *Clostridium perfringens*, or acute heavy metal poisoning). Also, the differential includes acute neurotoxic or paralytic shellfish poisoning (after appropriate recent seafood ingestion) or scombroid or ciguatera poisoning. Nausea and vomiting with diarrhea usually indicates a viral (enterovirus or rotovirus), bacterial (*Escherichia coli*, *Salmonella*, *Shigella*, *Campylobacter*, or *Yersinia* species), or protozoal process (giardiasis, amoebiasis, cryptosporidiosis, or other microsporidiosis). When diarrhea supervenes in a patient with human immunodeficiency virus-1 (HIV-1) infection, there are many other potential causes, including cytomegalovirus, HIV-1, *Mycobacterium* species, among others.

4.3.5. Common Treatments

While many of these diarrhea syndromes are self-limiting, specific antimicrobial therapy may be indicated in certain cases. Caution should be exercised with use of antiperistaltic agents, such as Lomotil or loperamide hydrochloride (imodium).

4.4. SPECIFIC ILLNESSES

4.4.1. The Common Cold Syndrome

4.4.1.1. Definition

The common cold is a mild, self-limited syndrome that involves rhinorrhea. Viruses associated with the common cold include the rhinoviruses (in the picornavirus family), coronaviruses, parainfluenza viruses, respiratory syncytial virus, influenza virus, and adenovirus.

4.4.1.2. Signs and Symptoms

The most important symptom is discharge with nasal obstruction, sneezing, sore throat and cough. Mild fever is also common. The common cold syndrome usually lasts for 1 to 2 weeks maximum. Typical physical findings include a red nose with a dripping, clear nasal discharge; there may be associated pharyngeal erythema.

4.4.1.3. Preliminary Workup

The clinical picture is usually so suggestive that laboratory and radiological studies are usually unnecessary.

4.4.1.4. Differential Diagnosis

The most common differential diagnoses include hay fever, vasomotor rhinitis, bacterial sinusitis, and bacterial upper respiratory infection. If the pharynx is markedly injected, streptococcal or adenovirus infection would be included in the differential diagnosis, as well as Vincent's angina, mononucleosis, and diphtheria. The presence of nasal polyps suggests an underlying allergic etiology.

4.4.1.5. Common Treatments

Only symptomatic treatment is indicated, which can include the use of antihistamines or vasoconstrictors. Nasal drops containing phenylephrine or ephedrine are recommended for provision of symptomatic relief of nasal congestion. Caution should be used, in that the topical application of some of these decongestants may lead to a rebound phenomenon. Cough can be controlled with preparations containing codeine or dextromethorphan. Sore throat can be relieved with saline gargles. The prevention of further spread is based on appropriate hand washing by the patient. Antimicrobials should not be used.

4.4.2. Pharyngitis

4.4.2.1. Definition

Acute pharyngitis is an inflammatory syndrome of the upper respiratory tract involving the naso- and oropharynx. Most cases of acute pharyngitis are due to viral etiologies. The most important of the bacterial etiologies is the group A β -hemolytic streptococcus. The latter bacterial pathogen is the most important because of secondary sequelae, such as acute rheumatic fever and glomerulonephritis. Other important and common etiologies of acute pharyngitis include *Chlamydia pneumoniae*, *Mycoplasma pneumoniae*, and other bacterial pathogens, including group C β -hemolytic streptococci, *Corynebacterium diphtheria*, and mixed anaerobic organisms. Viral etiologies include those that cause the common cold syndrome, in addition to Herpes simplex virus, Epstein-Barr virus, cytomegalovirus, and HIV-1.

4.4.2.2. Signs and Symptoms

Most of the episodes of pharyngitis occur during respiratory disease season, during the colder months of the year. Adenovirus typically occurs during winter

months, while bacterial streptococcal pharyngitis occurs during late winter and early spring. The typical signs and symptoms include mild to severe pharyngeal discomfort, associated with erythema and possibly an exudate on visual inspection. Mild to moderate complaints are most often associated with viral syndromes, while severe pharyngitis with exudate is more typical of bacterial etiologies, especially group A β -hemolytic streptococcus infection. When associated with conjunctivitis, an adenovirus etiology should be considered. When associated with vesicles in both the anterior portion of the mouth (buccal mucosa) in addition to the pharynx, Herpes simplex virus should be considered. Vesicles confined to the soft palate, uvula, and tonsillar pillars are more typical of a coxsackievirus. A pharyngitis associated with marked cervical adenopathy is much more characteristic of Epstein–Barr virus infection (infectious mononucleosis). Afebrile pharyngitis without unusual findings is typical of primary infection with HIV-1.

4.4.2.3. Common Treatments

When the differential diagnosis includes only primarily a viral syndrome, symptomatic management is appropriate. However, when a bacterial, mycoplasmal, or chlamydial etiology is suspected, the use of erythromycin orally at a dose of 500 mg every 6 h, or one of the newer macrolide preparations (clarithromycin or azithromycin) would be appropriate. When a streptococcal etiology is suspected, a throat culture and a rapid streptococcal test would be appropriate. The rapid strep assay is only helpful when positive in defining the etiology and must be supplemented by culture if negative and the suspicion of a streptococcal process remains. For all group A streptococcal pharyngitis, a 10-day course of penicillin orally or an equivalent parenteral intramuscular injection is appropriate. Erythromycin is an appropriate alternative in penicillin-allergic patients.

4.4.3. Acute Bronchitis

4.4.3.1. Definition

Acute bronchitis is an inflammatory syndrome of the lower respiratory tract (tracheobronchial tree), which is associated most commonly with a concomitant acute respiratory viral infection or a concomitant superimposed bacterial pathogen.

4.4.3.2. Signs and Symptoms

In addition to complaints consistent with a usual cold or influenza-type illness, patients complain of cough that is productive of purulent sputum. Patients identify this by noting a change in the color, consistency, or overall appearance of their sputum. With severe bronchitis associated with cough, a burning retrosternal pain with cough may be a significant element of the syndrome. Patients with underlying

chronic obstructive lung disease may complain of increased shortness of breath and dyspnea on exertion. Physical findings of rhonchi on pulmonary exam are consistent with this syndrome. Signs of aveolar airway rales or crackles would suggest the possibility of a supervening pneumonia.

4.4.3.3. Preliminary Workup

In addition to a physical exam, a chest X-ray may be indicated in severely compromised patients. Gram's stain and culture of sputum specimen may likewise be of value in focusing therapy. A complete blood count may or may not be necessary.

4.4.3.4. Differential Diagnosis

Typical viral causes include rhinoviruses, coronaviruses, influenza and adenoviruses. Bacterial etiologies when superimposed on such respiratory virus infections usually include *Streptococcus pneumoniae*, *Hemophilus influenzae*, and *Moraxella catarrhalis*. When not superimposed upon a respiratory virus infection, most commonly the organisms would include *Mycoplasma pneumoniae*, *Chlamydia pneumoniae*, and possibly *Bordetella pertussis*.

4.4.3.5. Common Treatments

Most treatment is usually symptomatic and directed at suppression of cough. In patients with underlying chronic obstructive lung disease, in addition to cough suppression with dextromethorphan, preparations with codeine may be of value. Antimicrobial agents are commonly utilized despite not being recommended in general practice. When a pneumococcus is expected, the use of amoxicillin would be appropriate, as would the use of this agent for *Hemophilus influenzae* and *Moraxella catarrhalis* infections. An erythromycin preparation, including one of the newer agents, might be appropriate when an atypical organism such as *Mycoplasma* or *Chlamydia* is suspected; these newer agents, clarithromycin and azithromycin, have probable efficacy against the routine bacterial pathogens as well.

4.4.4. Otitis Externa

4.4.4.1. Definition

Otitis externa is an infection of the external auditory canal, a canal inhabited by skin microflora including coagulase negative staphylococci and corynebacteria, as well as *Staphylococcus aureus* and other microaerophilic organisms. When the external canal remains moist, possibly compromised by microangiopathy of diabetes mellitus, invasion can occur by normal skin flora and Gram-negative bacilli, particularly *Pseudomonas aeruginosa*.

4.4.4.2. Signs and Symptoms

Acute otitis externa may be due to a pustule or furuncle associated with a hair follicle and commonly caused by *Staphylococcus aureus*. Erysipelas with inflammation and pain of the external canal may also be caused by group A streptococci. An acute, diffuse otitis externa, otherwise known as “swimmer’s ear,” occurs primarily in humid, warm parts of the year related to continued moisture in the external canal. Gram-negative organisms, including *Pseudomonas aeruginosa*, are the most common causes. Invasive “malignant” otitis externa is a severe infection associated with necrosis of the superficial mucosa seen in patients with diabetes mellitus. There is severe pain and tenderness of the external canal accompanied by drainage. In the other forms of otitis externa, the major symptoms are only itching with less severe pain than with the malignant form.

4.4.4.3. Preliminary Workup

No workup is usually necessary unless invasive (malignant) otitis externa is suspected, in which case a computed tomography (CT) scan or an magnetic resonance imaging scan would be in order. When the latter is suspected, a complete blood count and a blood glucose level would also be important.

4.4.4.4. Differential Diagnosis

The differential diagnoses of an external otitis are limited and involve the acute localized form related to a folliculitis, an acute otitis externa related to humidity and warmth, or the invasive (malignant) form.

4.4.4.5. Common Treatments

Most of the acute otitis externas that develop require incision and drainage when a pustule or furuncle is present. In the case of swimmer’s ear, topical irrigation and cleansing is appropriate management, including hydrophilic solutions such as a 50% Burow’s solution. Topical antimicrobial solutions containing neomycin and polymyxin also have some merit. Systemic antimicrobials are indicated for the invasive form of external otitis. A culture of the external canal is vital in order to differentiate the various causes.

4.4.5. Otitis Media

4.4.5.1. Definition

Otitis media is a term utilized to describe infection of the middle ear. Defined by the presence of fluid with possible purulence behind the tympanic membrane, otitis

media is accompanied by signs of illness, including fever. The usual causative organisms are *Streptococcus pneumoniae*, *Hemophilus influenzae*, or *Moraxella catarrhalis*. Viral etiologies, as well as *Mycoplasma* and *Chlamydia*, have also been suggested as important pathogens.

4.4.5.2. Signs and Symptoms

In addition to the presence of fluid behind the tympanic membrane, patients are usually febrile, with complaints of ear pain, drainage, or hearing loss.

4.4.5.3. Preliminary Workup

Physical examination should be performed.

4.4.5.4. Differential Diagnosis

Usually otoscopy is sufficient to define the etiology of complaints. The differential only includes whether or not there is mastoiditis present.

4.4.5.5. Common Treatments

Management of acute otitis media involves the use of antimicrobial agents including amoxicillin, trimethoprim–sulfamethoxazole, or oral cephalosporins such as cefuroxime–axetil, cefixime, or cefpodoxime proxetil. Decongestants and antihistamines may have some value in the management of this syndrome.

4.4.6. Sinusitis

4.4.6.1. Definition

Acute sinusitis is an infection of the paranasal sinuses usually caused by an aerobic or anaerobic bacterium. Such infections usually complicate viral infections. Complications of acute sinusitis include intracranial infection such as bacterial meningitis and brain abscesses. The bacterial etiologies of acute sinusitis include *Streptococcus pneumoniae*, *Hemophilus influenzae*, a variety of anaerobic bacteria, *Staphylococcus aureus*, *Streptococcus pyogenes*, and *Moraxella catarrhalis*. Gram-negative organisms are uncommon causes. *Chlamydia pneumoniae* is a recently described potential etiology of sinusitis.

4.4.6.2. Signs and Symptoms

The presumptive diagnosis of bacterial sinusitis is made on clinical grounds based on patient complaints of persistent nasal or pharyngeal discharge, a feeling of

pressure over specific sinus areas of the face, cough, and possibly headache, with disorders of smell. The patient may be febrile with an acute bacterial or viral sinusitis.

4.4.6.3. Preliminary Workup

In addition to a careful history, lingering upper respiratory complaints after a respiratory viral syndrome suggests the diagnosis, although the most useful diagnostic examination involves transillumination of the involved sinus. Additionally, X-rays of sinuses or CT of the head can be utilized. A specific diagnosis requires sinus puncture with irrigation and culture, but it is not usually necessary.

4.4.6.4. Differential Diagnosis

Potential noninfectious causes in the differential diagnosis of acute sinusitis include tumors of the sinuses, foreign bodies in the nose, Wegener's granulomatosis, and midline granuloma.

4.4.6.5. Common Treatments

While a number of cases of acute sinusitis are related to acute viral infections, antimicrobials effective against the two major causes of sinusitis, *Streptococcus pneumoniae* and *Hemophilus influenzae*, are available. A 14-day treatment course with amoxicillin or amoxicillin–clavulanate would be appropriate. An alternative non-beta-lactam agent is trimethoprim–sulfamethoxazole. Supportive treatment includes the use of nasal decongestants as previously described.

4.4.7. Conjunctivitis

4.4.7.1. Definition

Conjunctivitis is an inflammatory condition of the palpebral and bulbar conjunctivae caused by a variety of infectious agents, including bacteria, viruses, *Chlamydia trachomatis*, fungi, and metazoan parasites.

4.4.7.2. Signs and Symptoms

The most evident clinical manifestation of conjunctivitis is erythema and inflammation of the bulbar and palpebral conjunctivae. The conjunctival vessels are dilated and congested. Varying with the cause and severity of the process, the secretions may be purulent, mucopurulent, fibrinous, or serosanguineous. The conjunctiva may become less transparent with increasing degrees of inflammation, and diffuse infiltrates of leukocytes with hyperplasia of the epithelium may result in papilla formation.

4.4.7.3. Preliminary Workup

The basis for diagnosis of an acute conjunctivitis really relies on appropriate culture of conjunctival secretions, as well as Gram's stain. The most typical bacterial pathogens include *Staphylococcus aureus*, *Streptococcus pneumoniae*, *Hemophilus influenzae*, and *Neisseria gonorrhoea*. Among the typical viral causes of conjunctivitis, adenoviruses head the list, with herpes viruses also being significant pathogens. *Chlamydia trachomatis* and *Neisseria gonorrhoea* are significant causes in newborns. *Candida* species are major fungal pathogens. Culture and Gram's stain of secretions are the primary means for differentiating the various causes.

4.4.7.4. Differential Diagnosis

Other than the causes mentioned above, uveitis may present with similar degrees of photophobia and visual loss; acute-angle closure glaucoma may present with pain. Other noninfectious causes of inflammation of the conjunctiva are limited to chemical or foreign body reactions.

4.4.7.5. Common Treatments

Most mild bacterial conjunctivitis and viral conjunctivitis are usually self-limited and benign. Topical gentamicin for Gram-negative rods and topical erythromycin–bacitracin–polymyxin B solutions with trimethoprim are appropriate choices. Topical fluoroquinolone solutions are reserved for severe conjunctivitis and will have efficacy for a variety of agents, including *Chlamydia*. For viral conjunctivitis when Herpes simplex is a consideration, topical antiviral agents such as trifluorothymidine or acyclovir would be appropriate.

4.4.8. Community-Acquired Pneumonia

4.4.8.1. Definition

Community-acquired pneumonia is an infection of the lower respiratory tract involving the interstitium and/or alveolar air spaces with replication of microorganisms and a secondary inflammatory response. The etiology of community-acquired pneumonia is most commonly bacterial, including *Streptococcus pneumoniae*, *Hemophilus influenzae*, *Moraxella catarrhalis*, and a variety of other less common organisms; *Staphylococcus aureus* becomes more prominent, though second to the *Streptococcus pneumoniae*, following epidemics of viral influenza. Other etiologic agents for community-acquired pneumonia include viral infections, fungal processes, *Mycoplasma pneumoniae*, *Chlamydia* species, mycobacteria, and rickettsioses.

4.4.8.2. Signs and Symptoms

Most patients will complain of intermittent or continuous fever associated with cough and possibly shortness of breath. The cough is usually productive of sputum with or without associated hemoptysis. There may be associated pleuritic chest pain. Physical examination reveals inspiratory and expiratory crackles (rales), perhaps associated with rhonchi. A rub may be heard in association with complaints of pleuritic chest discomfort.

4.4.8.3. Preliminary Workup

A chest X-ray is usually indicated, along with a complete blood count. Ideally, a sputum should be collected for Gram's stain and culture.

4.4.8.4. Differential Diagnosis

In addition to the infectious etiologies mentioned above, the differential diagnosis includes pulmonary emboli, congestive heart failure, and other lower respiratory syndromes that are not associated with true pneumonia. Chronic interstitial lung processes may mimic an acute pneumonia, as may chronic obstructive lung disease and asthma.

4.4.8.5. Common Treatments

After obtaining a specimen of lower respiratory secretions for Gram's stain and culture, therapy is best directed at the inciting pathogen. If no particular pathogen is found and a mononuclear leukocytosis is found in the sputum, atypical pneumonia should be suspected. In such a setting, an erythromycin preparation (for example, azithromycin or clarithromycin) could be initiated, since these agents will cover *Streptococcus pneumoniae*, *Hemophilus influenzae*, *Moraxella catarrhalis*, *Mycoplasma pneumoniae*, and *Chlamydia pneumoniae* within their spectrum, in addition to unusual causes of atypical pneumonia syndromes such as Legionnaires' disease. The patient can be managed in the ambulatory setting if illness is mild, but consideration of hospitalization must be given if the syndrome progresses.

4.4.9. Urinary Tract Infection

4.4.9.1. Definition

This is an infection of the lower urinary tract involving the bladder, possibly with ascent to involve the ureter and kidney unilaterally or bilaterally. It is important to differentiate urinary infection (associated with pyuria) from simple bacteriuria.

4.4.9.2. *Signs and Symptoms*

A urinary tract infection confined to the lower urinary tract usually presents with symptoms of dysuria, frequency, urgency, hesitancy, and/or simply confusion in the elderly. An upper urinary tract infection is reflected by the presence of fever along with similar symptomatology, in addition to the presence of flank pain or tenderness.

4.4.9.3. *Preliminary Workup*

The patient should be asked to void a midstream urine as a “clean-catch” specimen. In the presence of fever, a complete blood count may be indicated. In males, a urine culture is always performed, while in females for the first episode of symptomatic lower urinary tract infection a culture is not always needed.

4.4.9.4. *Differential Diagnosis*

The differential diagnosis of a urinary tract infection includes other infections of the lower urinary tract, such as gonococcal or nongonococcal urethritis, trichomoniasis, and bacterial vaginosis in a female. It should be noted that women who have recurrent urinary tract infections may have relapses (with the same organism) or reinfections (with a different organism). Most recurrent urinary infections in females are reinfections rather than relapses, while in men, who do not usually develop recurrent urinary infections until the 7th or 8th decades, recurrent infections are usually due to relapses, often due to seeding from an infected prostate gland.

4.4.9.5. *Common Treatments*

Generally, a urinary tract infection in a young female can be treated on the first occasion with trimethoprim–sulfamethoxazole for 3 days (double-strength tablet bid \times 3 days); for women who have recurrent infections related to sexual intercourse, postcoital prophylaxis with a single double-strength tablet of trimethoprim–sulfamethoxazole is appropriate. Second and subsequent recurrences of urinary infection in a woman should be guided by culture. In males, therapy should always be guided by culture and relapses require treatment of chronic prostatitis.

4.4.10. Prostatitis

4.4.10.1. *Definition*

Prostatitis refers to an infection of the prostate gland associated with discomfort referred to the lower urinary tract or perineum.

4.4.10.2. *Signs and Symptoms*

Acute bacterial prostatitis is usually not difficult to diagnose because patients complain of lower urinary tract symptoms, such as frequency and dysuria, associated with signs of systemic toxicity and fever. Rectal examination frequently reveals a tense, tender prostate upon palpation. This is often associated with acute lower urinary tract infection. Chronic bacterial prostatitis is a cause of relapsing urinary tract infections in men.

4.4.10.3. *Preliminary Workup*

The diagnosis of the various prostatitis syndromes requires culture of urine with a four-part collection, including expressed prostatic secretions after digital rectal examination. A complete blood count may be useful.

4.4.10.4. *Differential Diagnosis*

The differential diagnosis of the various prostatitis syndromes is only supplemented by the possibility of prostatic tumor or granulomatous prostatitis due to mycobacteria. The most common pathogens causing prostatitis in males over 35 years of age are those commonly causing lower urinary tract infections, including *Escherichia coli*, and various *Proteus*, *Morganella*, and *Providencia* species. In males under 35 years of age, *Neisseria gonorrhoea*, *Ureaplasma urealyticum*, and *Mycoplasma* species should be considered with *Chlamydia trachomatis*.

4.4.10.5. *Common Treatments*

Chronic bacterial prostatitis is usually treated for 6 weeks with ciprofloxacin (500 mg orally twice daily for 6 weeks) or with trimethoprim–sulfamethoxazole (double-strength tablet twice daily for 3 months). Acute bacterial prostatitis is associated with serious clinical symptomatology and may initially require parenteral antimicrobial agents, all of which enter the prostate in the acute inflammatory situation.

4.4.11. Genital Ulcerative Disease

4.4.11.1. *Definition*

The definition of genital ulcerative disease involves the presence of cutaneous breakdown on the penis or perigenital area of the male or on the external genitalia, vagina, or cervix of the female.

4.4.11.2. Signs and Symptoms

Such ulcerative lesions are differentiated one from another on the basis of whether or not pain is present and on the association of multiplicity of lesions, pattern of recurrence (if any), and regional lymphadenopathy.

4.4.11.3. Preliminary Workup

Such patients should be referred to a sexually transmitted disease clinic or an infectious diseases consultant for evaluation. Appropriate cultures and serological workup will be necessary to assure appropriate definition of the etiology.

4.4.11.4. Differential Diagnosis

The differential diagnosis of such infectious genital ulcer syndromes includes a fixed-drug eruption and trauma to the genitalia. While *Chlamydia trachomatis* is not associated with ulcerative disease in males, cervical erosions associated with this infection are present in females.

4.4.11.5. Common Treatments

Treatment of these ulcers varies with the etiology, ranging from the use of antivirals for herpes simplex, to penicillin for syphilis, and to ceftriaxone for chancroid. Tetracyclines are appropriate for chlamydial syndromes such as lymphogranuloma venereum due to *Chlamydia trachomatis*.

4.4.12. Sexually Transmissible Diseases

4.4.12.1. Definition

Sexually transmissible diseases, in addition to genital ulcer disease, consist of complaints of urethritis with urethral discharge or vulvovaginitis and cervicitis. The etiology of these syndromes include: for *urethritis*, *Neisseria gonorrhoea*, *Chlamydia trachomatis*, and trichomoniasis; for *vulvovaginitis*, in addition to ulcerative disease due to Herpes simplex virus, nonspecific bacterial vaginosis, vulvovaginal candidiasis, and trichomoniasis; for cervicitis, Herpes simplex virus, *Chlamydia trachomatis*, and *Neisseria gonorrhoea*.

4.4.12.2. Signs and Symptoms

Patients with urethritis complain of dysuria and urethral discharge. Patients with vulvovaginal syndromes complain of vaginal discharge, which is usually malodorous with or without itching.

4.4.12.3. Preliminary Workup

Such patients with these complaints should be referred to a sexually transmitted disease clinic, a urologist, or a gynecologist for further evaluation.

4.4.12.4. Differential Diagnosis

In addition to the varying etiologies causing these syndromes, a simple lower urinary tract infection can produce many of these symptoms in both men and women, as can a foreign-body vaginitis in women.

4.4.12.5. Common Treatments

Treatment for the various sexually transmissible syndromes of urethritis and vulvovaginal infection varies with the specific etiology. Common therapy today for gonococcal urethritis or cervicitis is a single oral dose of ciprofloxacin, 500 mg. An alternative regimen includes ceftriaxone, 250 mg given intramuscularly. For *Chlamydia trachomatis* infection causing nongonococcal urethritis and cervicitis, doxycycline 100 mg orally twice daily for 7 days is the preferred regimen. In a potentially pregnant woman, an optional regimen is azithromycin 1 g given orally on one occasion. Management of bacterial vaginosis and trichomoniasis is similar, with a single 2-g dose of metronidazole. Vulvovaginal candidiasis is managed with imidazole vaginal suppositories (for example, miconazole or clotrimazole).

4.4.13. Simple Skin Infections

See Chapter 8, this volume.

4.4.14. Acute Arthritis

4.4.14.1. Definition

An inflammatory reaction within a joint space is termed an *acute arthritis*. The most common bacterial cause of acute arthritis in children under 5 years of age is *Hemophilus influenzae* type B, while in older children and adults the most common etiology is *Staphylococcus aureus*. In the clinical setting of a sexually active female around menses, *Neisseria gonorrhoea* becomes an important etiologic consideration. Nonbacterial acute arthritides include those caused by acute viral infections, such as rubella, those caused by chronic granulomatous diseases, such as *Mycobacterium tuberculosis* arthritis, and those parainfectious arthritides associated with hepatitis B or various diarrhea syndromes (postinfectious arthritis). The latter group includes those arthritides following enteric infections with *Shigella*, *Salmonella*, *Campylobacter*, and *Yersinia* species.

4.4.14.2. Signs and Symptoms

The patient presents with an acute febrile episode and complaints of a mono-articular or polyarticular arthritis. The involved joint is tender, swollen, and evidences synovial effusion.

4.4.14.3. Preliminary Workup

Workup involves complete blood count and arthrocentesis with appropriate Gram's stain and culture of synovial fluid.

4.4.14.4. Differential Diagnosis

The differential diagnosis of acute infectious arthritis includes arthritis secondary to crystals (gout and pseudogout), as well as arthritides associated with both spontaneous connective tissue disorders and those secondary to medications.

4.4.14.5. Common Treatments

The usual treatment for septic arthritis after documentation by Gram's stain and culture is the use of nafcillin or oxacillin for *Staphylococcus aureus* infections. For *Neisseria gonorrhoea*, ceftriaxone is the agent of choice parenterally.

4.4.15. Hepatitis

See Chapter 5, this volume.

4.4.16. Acute Meningitis

4.4.16.1. Definition

Meningitis is defined as inflammation of the meninges, which is substantiated by abnormal cerebrospinal fluid findings. Acute meningitis has an onset that is defined in terms of hours or several days maximally. Etiologies include acute bacterial, viral, and spirochetal pathogens. Fungal and protozoal meningitis is more typically subacute to chronic.

4.4.16.2. Signs and Symptoms

Diagnosing acute viral or bacterial meningitis may be difficult because of similar symptomatology. Children during an acute meningitis syndrome usually present with fever of rather sudden onset, with meningeal signs of nuchal rigidity and headache. Nonspecific symptoms would include vomiting, anorexia, and possibly a rash. When

viral in etiology, there may be associated diarrhea, cough, or upper respiratory symptoms, along with myalgias. When of bacterial etiology, confusion may likewise supervene, with a declining level of consciousness. The Kernig's or Brudzinski's signs may be useful. With the patient supine, with thigh flexion on the abdomen and the knee flexed, the leg is passively extended; in the presence of meningeal irritation, the patient resists leg extension (*Kernig's sign*). *Brudzinski's sign* involves attempts at passive flexion of the neck with reflex flexion of the hips and knees.

4.4.16.3. Preliminary Workup

The initial evaluation may include a CT scan of the head if there is a subacute presentation; in the acute presentation, however, most physicians would elect immediately to do a lumbar puncture and obtain a spinal fluid specimen for analysis, in addition to measuring opening pressure. With a *viral etiology* (enterovirus, mumps virus, lymphocytic choriomeningitis virus, herpesvirus, or HIV infection), usually the opening pressure is minimally elevated to just above 200 mm of water and the cell count is usually 100–1000/mm³. Neutrophils may be present, but usually within 24 to 48 hr there is a lymphocyte predominance. The cerebrospinal fluid protein is usually elevated and the glucose is normal or minimally depressed. Glucose depression in the spinal fluid may reflect mumps, Herpes simplex, or lymphocytic choriomeningitis virus infection. A culture of the spinal fluid for the viruses is usually not fruitful. With *bacterial meningitis*, the opening pressure is usually above 180 mm of water with the cerebrospinal fluid cell count 1000–5000/mm³, 80% or greater of which are neutrophils. The protein usually ranges from 100 to 500 mg/dl and the glucose is usually marginally low or low (below 40 mg/dl). The spinal fluid of *Spirochetel meningitis* due to *Treponema pallidum*, *Borrelia burgdorferi*, or *Leptospira* species is usually abnormal, with an elevated protein and cerebrospinal fluid leukocyte count elevated with a predominance of lymphocytes. The differential of a bacterial meningitis varies somewhat with age; in the very young, Gram-negative organisms may be present, while up to age 5, *Hemophilus influenzae* has been the predominant organism. In adult years, *Neisseria meningitis* evolves as the predominant organism, followed by pneumococcus in the later adult years.

4.4.16.4. Differential Diagnosis

The only noninfectious diseases that can mimic an acute infectious meningitis include: (1) subarachnoid hemorrhage; (2) the initial 24 h after a grand mal seizure; and (3) aseptic meningitis induced by medications (classically trimethoprim–sulfamethoxazole, among others).

4.4.16.5. Common Treatments

These patients are best referred to an internist for further evaluation and treatment. Parenteral antimicrobials are the agents of choice, with ceftriaxone being the

agent of choice for patients in whom the diagnosis is uncertain, perhaps combined with ampicillin.

4.4.17. Lymphadenopathy and Lymphadenitis

4.4.17.1. Definition

Lymphadenopathy is defined as the presence of enlarged lymph nodes. Lymphadenitis implies the presence of lymphadenopathy with evidence of inflammation, as indicated clinically by discomfort or pain upon palpation. Such painful nodes may in fact be suppurative (fluctuant), or associated with sinus formation in some circumstances.

4.4.17.2. Signs and Symptoms

Patients may present with notable regional or diffuse adenopathy with or without associated pain and with or without associated fever.

4.4.17.3. Preliminary Workup

A complete blood count with a serum enzyme profile, possibly reflecting liver dysfunction, would be part of an appropriate initial laboratory evaluation. Such patients may require a lymph node biopsy for comprehensive evaluation.

4.4.17.4. Differential Diagnosis

The differential diagnosis would include acute pyogenic infections or more chronic involvement with a mycobacterial, viral, or spirochetal process. Certain systemic fungal processes, such as histoplasmosis, coccidioidomycosis, and cryptococcosis may present with regional or generalized adenopathy. Among the protozoal processes, toxoplasmosis is the most commonly encountered in the United States. When fever and weight loss are associated with regional or generalized adenopathy, a noninfectious etiology must be considered, including lymphoma.

4.4.17.5. Common Treatments

Treatment would have to be individualized after a specific diagnosis is made.

4.4.18. Human Immunodeficiency Virus-1

4.4.18.1. Definition

Infection with HIV-1 is defined by a positive serology for HIV-1, by the isolation of HIV-1 from the patient's serum or other body fluid or tissue, or by the presence of

viral RNA. The definition of AIDS includes the development of any opportunistic infection or malignancy regardless of CD₄ (T-helper cell) count. When the CD₄ count consistently drops below 200/mm³, the definition for AIDS is also met.

4.4.18.2. Signs and Symptoms

Fever, anorexia, and weight loss occur. The appropriate risk would include male homosexuality, parenteral substance abuse, unprotected sexual activity, or transfusion between 1980 and March 1985, especially with blood obtained in larger cities.

4.4.18.3. Preliminary Workup

The patient can be requested to allow an HIV-1 antibody test to be performed; written consent should be obtained. A complete blood count could also be obtained simultaneously, as well as a VDRL.

4.4.18.4. Differential Diagnosis

A variety of other disease processes could present with the combination of fever, anorexia, and weight loss.

4.4.18.5. Common Treatments

When a patient is diagnosed as having HIV-1 infection, at least when the CD₄ cell count drops below 500/mm, therapy with an antiretroviral agent should be offered.

4.5. IMMUNIZATIONS

See Chapter 15, this volume.

4.6. SPECIAL CONSIDERATIONS FOR PSYCHIATRISTS

Appropriate referral to a general internist or specialist is advised in many cases discussed above. Psychiatric waiting rooms may be ideal situations where contaminated hands serve as vehicles for spread of infections to other individuals. Appropriate use of facial tissues in the office area may encourage appropriate disposition of contaminated items. Patients with AIDS may present to the psychiatrist for substance abuse or other psychiatric disorder, but the diagnosis of AIDS may be suspected due to the presence of diffuse adenopathy or complaints of fever with anorexia and weight loss. Patients with certain syndromes should be referred to a sexually transmissible disease clinic.

Many of the phenothiazines and other psychotropic medications may produce a

neuroleptic malignant syndrome associated with fever that is consistently elevated, alterations of consciousness, extrapyramidal signs, and autonomic dysfunction. Fever may be as high as 42°C (107°F). Muscular rigidity and involuntary movements should suggest the possibility of this syndrome as a cause of fever. The significant myotonia may induce rhabdomyolysis, resulting in acute renal failure. Management of this syndrome would require consultation with internal medicine and appropriate hospitalization. Such patients may be managed with dantrolene sodium or bromocriptine.