

Index

A

- Acid-fast stains, TBM, 143
- Acrodermatitis atrophicans, 216
- Acute community-acquired bacterial meningitis (ACBM)
 - altered mental status, 20
 - clinical signs and symptoms of, 20–21
 - computerized tomography of brain, 22
 - corticosteroids, 25
 - CSF tests
 - glucose level, 23–24
 - Gram stain, 24
 - lactate level, 24
 - white blood cell count, 23
 - dexamethasone, 25
 - E. coli*, 20
 - epidemiology of, 17–18
 - fever and neck stiffness, 20, 21
 - L. monocytogenes* infection, 19–20
 - management algorithm for, 22, 23
 - N. meningitidis*, 19
 - pathogenesis of, 18–19
 - S. pneumoniae*, 19
 - S. stercoralis*, 20
- Acute encephalitic syndrome (AES), 83–84
- Acute flaccid paralysis (AFP)
 - characterization of, 108
 - differential diagnosis of, 109
 - electrodiagnostic tests, 110
 - MRI, 109
- Acute lumbosacral polyradiculitis, 318
- Acute opercular syndrome, 61
- Acute transverse myelitis (ATM), 108–110
- Acute viral encephalitis
 - agents of, 57, 58
 - arboviruses, 70–73
 - cytomegalovirus, 69
 - enterovirus, 69–70
 - HSE (*see* Herpes simplex encephalitis (HSE))
 - postinfectious encephalitis/encephalomyelitis, 73–75
 - reversible splenial lesion syndrome, 75
 - varicella–zoster virus, 68–69
- Acute viral meningitis
 - arbovirus infection, 53
 - clinical manifestations of, 47
 - definition of, 46
 - diagnosis of
 - brain CT, 49
 - CSF examination, 47–48
 - serologic studies, 48–49
 - sources for viral isolation, 48
 - differential diagnosis of, 49–50
 - EBV and cytomegalovirus, 51
 - enteroviruses, 50
 - epidemiology of, 46
 - etiology of, 47
 - herpes simplex virus, 50–51
 - HIV infection, 51–52
 - intravenous acyclovir, 54
 - lymphocytic choriomeningitis virus, 52–53
 - mumps, 52
 - pleconaril, 54
 - varicella–zoster virus, 51
- Acyclovir, 314
 - for acute viral meningitis, 54
 - for HSE, 65–67
 - for viral myelitis, 110
- Adenosine deaminase (ADA) determination, TBM, 143–144
- Aedes albopictus*, 107
- AFP. *See* Acute flaccid paralysis (AFP)
- African trypanosomiasis, 168

Albendazole, 175
 American trypanosomiasis, 166–168
 Amphotericin B treatment
 for *Aspergillus* infection, 125
 for *Candida* infection, 127
 for CNS histoplasmosis, 128
 for *Coccidioides* spp. infection, 129
 for cryptococcal meningoenzephalitis, 123
 for fungal meningitis, 132
 for zygomycosis, 131
 Angiostrongyliasis, 169
 Antibiotic-induced meningitis, 261
 Antimicrobial-impregnated catheters, 42
 Arboviruses (arthropod-borne virus), 71–72
 meningitis, 53
 occurrence of, 70
 Aseptic meningitis, 46
 EBV and cytomegalovirus, 51
 enteroviruses, 47
 HIV infection, 51
 HSV-2, 51
 lymphocytic choriomeningitis virus, 52
 mumps, 52
 Aspergillosis, 124–125
Aspergillus infections, 282
Aspergillus spp., 124–125
 Asymptomatic neurosyphilis, 231–233
 Atherothrombotic stroke, 315

B

Bacterial meningitis. *See also* Acute
 community-acquired bacterial
 meningitis (ACBM)
 death rate, 18
 dexamethasone, 25
 H. influenza vaccine, 18
 management algorithm for, 22, 23
 Bacterial myelopathies
 spinal cord tuberculosis, 193–194
 spinal epidural abscess, 196–197
 spirochetes, 195–196
 Baylisascariasis, 169
 Behçet disease, 264–265
Blastomyces dermatitidis, 131
Borrelia burgdorferi, 212–216, 219
Borrelia miyamotoi, 223
Borrelia recurrentis, 220
 Brain biopsy
 Herpes simplex encephalitis, 64–65
 for SME, 106
 Brucellosis, 197
 Brudzinski's sign, 20, 21

C

Candida albicans, 204
 amphotericin B administration, 127
 catheters removal and sterilization, 127
 clinical manifestations of, 126
 CSF analysis and culture, 126
 fluconazole administration, 127
 neurocandidiasis, 126
 prevalence of, 126
 symptoms of, 126
 Cardioembolic stroke, 315
 Carmustine-containing wafers, 279
 Central nervous system (CNS) infections
 diagnostic guidelines
 clinical syndrome, 276–278
 epidemiology, 276
 net state of immunosuppression, 276
 HCT
 HHV6, 279, 281
 PML, 282–287
 PTLDs, 282
 varicella–zoster virus, 281–282
 immunocompromised patients, 274–275
 multiple sclerosis
 dimethyl fumarate, 290
 fingolimod, 289–290
 impaired cognitive and motor
 performance, 287
 JCV serologic test, 288
 plasma exchange, 287
 TOUCH® prescribing program, 288
 Tysabri®, 284
 urine antibody test, 289
 neurodiagnostic laboratory
 consideration, 278
 neurosurgical patients, 278–280
 rheumatologic/autoimmune disorders
 alemtuzumab, 290
 corticosteroids, 290
 rituximab, 291–292
 tumor necrosis factor inhibitors,
 292–293
 Cephalosporins, 255
 Cerebral amebiasis, 164
 Cerebral malaria, 164–165
 Cerebral zygomycosis, 130. *See also*
 Zygomycosis
 Cerebrospinal fluid (CSF)
 ACBM
 glucose level, 23–24
 Gram stain, 24
 lactate level, 24
 white blood cell count, 23

- acute viral meningitis, 47–48
 - anatomy and physiology of, 2–4
 - in bacterial meningitis, 13–14
 - cells in, 10–11
 - components of, 10
 - diversion catheters, 30
 - drains, 30
 - drug-induced aseptic meningitis, 255–256
 - flow cytometry examination, 12
 - flow cytometry examination of, 12
 - functions of, 3
 - in fungal meningitis, 14
 - glucose CSF concentration, 12
 - healthcare-associated ventriculitis
 - CSF drain-related ventriculitis, 35, 36
 - CSF markers, 32
 - CSF microbiology studies, 34
 - CSF shunt-related ventriculitis, 37
 - immunoglobulin increase in, 11
 - infectious agents, identification of, 12, 13
 - Japanese encephalitis, 88
 - lumbar puncture, 4–6
 - complications of, 5, 7–9
 - contraindications of, 5–7
 - indications of, 4, 5
 - lateral recumbent and sitting
 - positioning for, 4, 5
 - macroscopic appearance of, 10
 - microscopic composition of, 10–12
 - postinfectious encephalitis/encephalomyelitis, 74
 - pressure, 9
 - protein level, 11–12
 - shunt infection
 - clinical signs and symptoms, 31–32
 - CSF parameters, diagnostic
 - accuracy of, 33
 - description of, 29–30
 - incidence of, 31
 - microbiology studies, 34
 - operative management, 40, 41
 - TBM, 142–143
 - in tuberculous meningitis, 14–15
 - in viral meningitis, 14
 - white and red blood cells, 10
 - Cestode infections
 - coenurosis, 177
 - cysticercosis, 172–176
 - echinococcosis/hydatid disease, 176
 - sparganosis, 177
 - Chagas' disease, 166–168
 - Chandipura virus (CHP), 106–107
 - Chikungunya (CHIK), 107–108
 - CMV. *See* Cytomegalovirus (CMV)
 - CNS gumma, 235–236
 - Coccidioides immitis*, 128–129, 205
 - Coccidioides* spp. infection
 - clinical presentation and diagnosis, 128–129
 - fluconazole administration, 129
 - liposomal amphotericin B treatment, 129
 - Coenurosis, 177
 - Coenurus cerebralis*, 177
 - Corticosteroids
 - ACBM, 25
 - fungal CNS infections, 121
 - HSE, 67
 - rheumatologic/autoimmune disorders, 290
 - TBM, 148–149
 - Cryptococcal meningitis
 - immunosuppressive regime, 121
 - symptoms and signs, 123
 - Cryptococcus gattii*, 122
 - Cryptococcus neoformans*, 122, 204, 281
 - Cryptococcus* spp.
 - CSF examination, 123
 - in HIV-positive patients, 122, 123
 - symptoms and signs, 123
 - therapeutic treatment for, 123
 - CSF. *See* Cerebrospinal fluid (CSF)
 - Culex annulirostris*, 86
 - Culex tritaeniorhynchus*, 86
 - Cysticercosis, 172–176
 - Cytomegalovirus (CMV), 192. *See also*
 - Varicella–zoster virus (VZV)
 - acute viral encephalitis, 69
 - meningitis, 51
- D**
- Demyelinating inflammatory neuropathy, 318
 - Dengue virus (DENV), 92–93, 190
 - DIAM. *See* Drug-induced aseptic meningitis (DIAM)
 - Diffuse micronodular encephalitis, 313
 - Dimethyl fumarate, 290
 - Dimorphic fungi
 - Coccidioides* spp. infection, 128–129
 - H. capsulatum*, 127–128
 - Distal symmetric polyneuropathy, 317–318
 - Drug-induced aseptic meningitis (DIAM)
 - Behçet disease, 264–265
 - cephalosporins, 255
 - clinical signs and symptoms, 253
 - clinical syndrome, 250
 - CSF characteristics, 255–256

- Drug-induced aseptic meningitis
 (DIAM) (*cont.*)
 differential diagnosis, 257, 259–260
 drug groups, 250–252
 eosinophils, 256
 HaDNL syndrome, 266
 intrathecal agents, 262–263
 lamotrigine and antiepileptic drugs, 262
 murine IgG2a antibody, 255
 neoplastic meningitis, 265
 pathogenesis
 antibiotic-induced meningitis, 261
 immunosuppressive/
 immunomodulatory agents,
 261–262
 NSAID-induced meningitis, 260–261
 polymorphonuclear leukocytes, 256
 primary angiitis central nervous system
 meningitis, 265
 recurrent, 257–258
 sarcoidosis, 264
 Sjögren's syndrome, 264
 systemic lupus erythematosus, 263–264
 underlying conditions, 257
 underlying disorder, 253–254
 vaccines, 263
 Vogt–Koyanagi–Harada syndrome,
 265–266
 Wegener's granulomatosis, 265
- E**
 Echinococcosis, 176
Echinococcus granulosus, 176
Echinococcus multilocularis, 176
 ELISA. *See* Enzyme-linked immunosorbent
 assay (ELISA)
 Elsberg syndrome, 191
 EM. *See* Erythema migrans (EM)
 Empiric intravenous antimicrobial therapy,
 healthcare-associated ventriculitis,
 37–38
Enterobacter spp., treatment for, 38
 Enterovirus (EV)
 acute viral encephalitis, 69–70
 enterovirus 71, 93–94, 188
 meningitis, 50
 poliovirus, 187–188
 Entomophthorales, 129
 Enzyme-linked immunosorbent assay
 (ELISA), 213–214
 Eosinophilic meningitis, 168–169
 Epidural abscess, spinal, 196–197
 Epstein–Barr virus (EBV), 51, 74, 192
 Erythema migrans (EM), 212–215, 223
 Erythromycin, 222
Escherichia coli, 20, 38
 External ventricular drains, 29, 30
- F**
 Fingolimod, 289–290
 Flavivirus
 dengue virus, 190
 West Nile virus, 189–190
 Flow cytometry examination, of CSF, 12
 Fluconazole, 123, 127, 129
 Focal brain lesions
 algorithm, HIV-infected patients,
 308–309
 cerebrospinal fluid, 311
 posterior fossa tuberculous abscess,
 312–313
 primary central nervous system
 lymphoma, 310
 progressive multifocal
 leukoencephalopathy, 310–311
 toxoplasma encephalitis, 308–310
 Fungal CNS infections
Aspergillus spp., 124–125
C. albicans, 126–127
 calcineurin inhibitors, 121
Cryptococcus spp., 122–123
 differential diagnosis of, 131–132
 dimorphic fungi
 Coccidioides spp. infection, 128–129
 H. capsulatum, 127–128
 forms of, 121
 fungal meningitis, 131–132
 fungal pathogens of, 124
 MALDI-TOF, 132
 outbreaks, glucocorticoid injections, 131
 in transplant recipients, 120
 zygomycosis, 129–131
 Fungal myelopathies, 204–205
- G**
 Garin–Bujadoux–Bannwarth syndrome,
 213, 217
Geotrichum capitatum, 131
 Glucose transporter type 1 deficiency
 syndrome (GLUT1DS), 12
Gnathostoma spinigerum, 201–202
 Gnathostomiasis, 169, 201–202

H

- HaDNL syndrome, 266
- Healthcare-associated ventriculitis
- antimicrobial-impregnated catheters, 42
 - clinical signs and symptoms, 31, 32
 - C-reactive protein levels, 32
 - CSF markers, 32
 - CSF microbiology studies, 34
 - diagnostic approach
 - CSF drain-related ventriculitis, 35, 36
 - CSF shunt-related ventriculitis, 37
 - post-craniotomy meningitis, 35
 - empiric intravenous antimicrobial therapy, 37–38
 - intraventricular antimicrobials, 38–40
 - management principles, 37
 - operative management, 40–41
 - organism-specific intravenous antimicrobial therapy, 38
 - P.acnes*, 31
 - peripheral white blood cell counts, 32
 - procalcitonin levels, 32
 - S. aureus*, 31
 - systemic antimicrobial prophylaxis, 41
- Hematopoietic cell transplantation (HCT)
- HHV6, 279, 281
 - PML
 - drug-related risk, 282–283
 - immune restoration, 284, 287
 - John Cunningham virus, 282
 - vs. natalizumab-associated IRIS, 284, 286
 - oligodendrocytes, 283
 - posterior fossa, 284–285
 - PTLDs, 282
 - varicella–zoster virus, 281–282
- Herpes simplex encephalitis (HSE)
- acute opercular syndrome, 61
 - acyclovir, 65–67
 - in AIDS and immunocompromised patients, 60
 - clinical features of, 60–61
 - corticosteroids, 67
 - diagnostic aids for
 - brain biopsy, 64–65
 - brain CT scan, 62, 64
 - CSF analysis, 62–63
 - electroencephalography, 62, 63
 - MRI, 62, 64
 - virological diagnosis, 63–64
 - differential diagnosis of, 65
 - epidemiology of, 58
 - histopathological basis of, 65
 - HSV-1 and HSV-2, 58
 - latency, 59
 - neonatal infection, 59–60
 - pathogenesis of, 58–60
 - postencephalitic epilepsy, 68
 - primary infection, 58–59
 - prognosis of, 67–68
 - reactivation, 59
 - rehabilitation, 68
 - supportive therapy, 67
 - surgical decompression for, 67
 - symptoms and signs of, 60
 - UNC-93B, 59
- Herpes simplex virus (HSV)
- encephalitis, 314
 - meningitis, 50–51
- Herpes simplex virus 1 (HSV1), 50, 65, 191
- Herpes simplex virus 2 (HSV2), 50, 51, 58, 191
- Herpesvirus, 190–191
- cytomegalovirus, 192
 - encephalitis caused by, 312–314
 - Epstein–Barr virus, 192
 - HSV1 and HSV2, 191
 - varicella–zoster virus, 191–192
- Heubner’s endarteritis, 238
- Histoplasma capsulatum*, 127–128
- Histoplasmosis, 127–128
- HSE. *See* Herpes simplex encephalitis (HSE)
- Human herpes virus 6 infections, 74
- Human immunodeficiency virus (HIV)
- cytomegalovirus, 302
 - encephalic complications
 - focal brain lesions, 308–313
 - HAD, 302, 305–306
 - HAND, 306–308
 - herpesviruses, 312–314
 - stroke, 314–315
 - meningitis, 315–316
 - meningoencephalitis, 51–52
 - metabolic and toxic disorders, 302
 - myelopathies, 316–317
 - myopathies, 318–319
 - neuroanatomical and etiological classification, 302–304
 - neurological immune reconstitution inflammatory syndrome, 319–321
 - neuromuscular weakness, 321
 - neuropathies, 317–318
 - neurosyphilis, 237–238, 319
 - pathogenic and chronologic classification, 300–301

Human immunodeficiency virus (HIV)-associated dementia (HAD), 302, 305–306

Human immunodeficiency virus (HIV)-associated neurocognitive disorders (HAND), 306–308

Human immunodeficiency virus (HIV)-associated vacuolar myelopathy, 183, 184

Human T-cell leukemia/lymphoma virus type 1 (HTLV-1), 184–187

Hydatid disease, 176, 203

Hyperlactacidemia, 321

I

Immune reconstitution inflammatory syndrome (IRIS), 287, 320

Immunosuppressive/immunomodulatory (IS-IM) agents, 261–262

Immunosuppressive measles encephalitis (IME). *See* Subacute measles encephalitis (SME)

Infectious myelopathies, 182

Influenza, neurological complications of, 75

Interferon-gamma release assays, TBM, 143

Intrathecal agents, 262–263

Intrathecal antibody production, 214–215

Intravenous acyclovir, acute viral meningitis, 54

Intraventricular antimicrobials, healthcare-associated ventriculitis, 38–40

Ischemic stroke, 314

J

Japanese encephalitis (JE)

- C. annulirostris*, 86
- convalescent stage of, 88
- CSF examination, 88
- C. tritaeniorhynchus*, 86
- distribution of, 86, 87
- encephalitic phase of, 88
- epidemiological patterns of, 86
- gliomesenchymal nodule, 87
- incidence of, 85
- JEV antigen and antibody detection tests, 89–90
- minocycline, 90
- MRI, 88, 89
- necrolytic lesion, 87
- N-methylisatin-beta-thiosemicarbazone, 90
- peripheral blood examination, 88

- prodromal phase of, 87–88
- treatment of, 90
- vaccination, 90
- waterbirds and vertebrate hosts, 85–86

Jolt accentuation test, 20, 21

K

Katayama fever, 172

Kernig's sign, 20, 21

L

Lamotrigine and antiepileptic drugs, 262

Leukoencephalopathy, 305–306

Listeria monocytogenes infection, 19–20

Louse-borne RF fever, 222

Lumbar drains, 30

Lumbar puncture (LP) technique, for CSF, 4–6

- complications of, 5
 - back pain and cranial nerve palsies, 8
 - infection after lumbar puncture, 8
 - local bleeding, 8
 - post-LP headache, 7–8
 - spinal epidural CSF collection, 9
- contraindications of, 5–7
- indications of, 4, 5
- lateral recumbent and sitting positioning for, 4, 5

Lyme borreliosis, 195–196

Lyme disease, 212–213

- cerebrospinal fluid, 216
- clinical phenomenology, 215–216
- diagnosis, 213–214
- intrathecal antibody production, 214–215
- lyme encephalopathy, 218
- neurologic manifestations, 216–217
- pathophysiology, 219
- treatment, 219–220

Lyme encephalopathy, 218

Lymphocytic choriomeningitis virus (LCMV), acute viral meningitis, 52–53

Lyssavirus, 193

M

Magnetic resonance imaging (MRI)

- acute flaccid paralysis, 109
- chikungunya, 108
- Japanese encephalitis, 88, 89
- rabies, 98
- subacute sclerosing panencephalitis, 103, 104

- TBM, 144, 145
 tuberculous granulomas, 150, 151
 viral encephalitis, 85
- Malarial retinopathy, 165
- Measles
 acute measles encephalitis, 101–102
 description of, 101
 SSPE (*see* Subacute sclerosing panencephalitis (SSPE))
 subacute measles encephalitis, 101, 105–106
- Measles inclusion body encephalitis (MIBE).
See Subacute measles encephalitis (SME)
- Meningitis, 315–316
 acute, 46 (*see also* Acute viral meningitis)
 by *B. dermatitidis*, 131
 vs. encephalitis, 46
 by *G. capitatum*, 131
 by *Rh. glutinis*, 131
 by *S. apiospermum*, 131
 by *S. roseus*, 131
 by *S. schenckii*, 131
- Meningoencephalitis, 223
- Meningovascular syphilis, 234
- Methicillin-resistant *S. aureus* (MRSA),
 antimicrobial therapy for, 38
- Methicillin-resistant *S. epidermidis* (MRSE),
 antimicrobial therapy for, 38
- Methicillin-susceptible *S. aureus* (MSSA),
 antimicrobial therapy for, 38
- Methicillin-susceptible *S. epidermidis*
 (MSSE), antimicrobial therapy for, 38
- Molds. *See* *Aspergillus* spp.
- Mononeuritis multiplex, 318
- MRI. *See* Magnetic resonance imaging (MRI)
- Mucorales, 129
- Multiple sclerosis
 dimethyl fumarate, 290
 fingolimod, 289–290
 impaired cognitive and motor performance, 287
 JCV serologic test, 288
 plasma exchange, 287
 TOUCH® prescribing program, 288
 Tysabri®, 284
 urine antibody test, 289
- Mumps, 52
- Mycobacterium tuberculosis*, 140
- Myelopathies, 316–317
- Myopathies, 318–319
- N**
- Naegleria fowleri*, 164
- Negri bodies, 96, 97
- Neisseria meningitidis*, 19
- Nematode infections
 eosinophilic meningitis, 168–169
 strongyloidiasis, 169–170
 toxocarasis, 170
 trichinellosis, 170–171
- Neoplastic meningitis, 265
- Neuroborreliosis, 215, 217–219, 222
- Neurocysticercosis, 173–175
- Neurological immune reconstitution
 inflammatory syndrome, 319–321
- Neuromuscular weakness, 321
- Neuropathies, 317–318
- Neurosypphilis, 195–196
 asymptomatic, 231–233
 causative agent, 228–230
 CNS gumma, 235–236
 diagnostic algorithm, 240–241
 epidemiology, 230–231
 HIV, 237–238, 319
 meningovascular syphilis, 234
 ocular syphilis, 236
 otosyphilis, 237
 parenchymatous syndromes, 234–235
 pathologic features, 238
 serological tests, 239–240
 symptomatic syphilitic meningitis, 233
 treatment recommendations, 241–242
- Nipah virus encephalitis (NVE), 94–95
- Nissl–Alzheimer endarteritis, 238
- Non-polio enterovirus, 189
- Nonsteroidal anti-inflammatory drugs
 (NSAIDs)-induced meningitis,
 260–261
- Nontuberculous mycobacteria (NTM)
 classification of, 155
 diagnosis of, 156
M. avium complex, 155
 neurosarcoidosis, 157
 prognosis for, 156
 therapy for, 157
- Nucleic acid amplification test, TBM, 144
- O**
- Ocular syphilis, 236
- Organism-specific intravenous antimicrobial
 therapy, healthcare-associated
 ventriculitis, 38
- Otosyphilis, 237

P

Pacchionian granulations, 3
 Paragonimiasis, 171, 203
Paragonimus, 171
 Parainfectious myelitis, 182–183
 Parasitic infections of CNS
 cestode infections
 coenurosis, 177
 cysticercosis, 172–176
 echinococcosis/hydatid disease, 176
 sparganosis, 177
 nematode infections
 eosinophilic meningitis, 168–169
 strongyloidiasis, 169–170
 toxocariasis, 170
 trichinellosis, 170–171
 protozoan infections
 cerebral amebiasis, 164
 cerebral malaria, 164–165
 toxoplasmosis, 165–166
 trypanosomiasis, 166–168
 trematode infections
 paragonimiasis, 171
 schistosomiasis, 171–172
 Parenchymatous syndromes, 234–235
 Paresis, 234–235
 Persistent neutrophilic meningitis, 142
Plasmodium falciparum, 164–165
 Pleconaril, for acute viral meningitis, 54
 PML. *See* Progressive multifocal
 leukoencephalopathy (PML)
 Poliomyelitis, 108–110, 187–189, 193
 Poliovirus, 187–188
 Polymerase chain reaction (PCR), 12
 CMV myelitis, 192
 healthcare-associated ventriculitis, 34
 HSV DNA, in CSF, 63
 relapsing fever, 222
 TBM, 144
 Post-craniotomy meningitis, 35
 Postinfectious encephalitis/
 encephalomyelitis (PE)
 characterization of, 73
 in children, 74
 CSF in, 74
 methylprednisolone and oral steroids, 74
 Post Lyme disease syndrome, 218
 Post-polio syndrome, 188
 Posttransplantation lymphoproliferative
 disorders (PTLDs), 282
 Pott disease, 194
 Praziquantel, for acute schistosomal
 myelopathy, 175

Primary amoebic meningoencephalitis, 164
 Primary angitis central nervous system
 meningitis, 265
 Primary central nervous system lymphoma
 (PCNSL), 300
 Progressive multifocal leukoencephalopathy
 (PML), 308–312, 320–321
 drug-related risk, 282–283
 immune restoration, 284, 287
 John Cunningham virus, 282
 vs. natalizumab-associated IRIS, 284, 286
 oligodendrocytes, 283
 posterior fossa, 284–285
Propionibacterium acnes, 31, 33, 34, 38, 41
 Protozoan infections
 cerebral amebiasis, 164
 cerebral malaria, 164–165
 toxoplasmosis, 165–166
 trypanosomiasis
 African trypanosomiasis/sleeping
 sickness, 168
 American trypanosomiasis/Chagas'
 disease, 166–168
Pseudomonas spp., treatment for, 38

R

Rabies, 193
 antemortem diagnosis of, 99
 encephalitic/furious form, 96
 MRI, 98
 Negri bodies, 96, 97
 paralytic/dumb rabies, 96, 98
 PCR tests, 99
 postexposure prophylaxis, WHO
 guidelines for, 100
 preexposure vaccination, 101
 prevalence of, 96
 wound treatment, 100
 Radermecker complexes, 103
 Rapid plasma reagin (RPR) tests, 195
 Relapsing fever (RF)
 borrelia miyamotoi, 223
 diagnosis, 221–222
 meningoencephalitis, 223
 neurological manifestations, 220–221
 pathophysiology, 222–223
 treatment, 222
 Retroviruses
 HIV, 183–184
 HTLV-1, 184–187
 Reversible splenic lesion syndrome, 75
 RF. *See* Relapsing fever (RF)

Rhodotorula glutinis, 131

Rich focus, 140

Rituximab, 291–292

Rotavirus infection, 75

S

Sarcoidosis, 264

Scedosporium apiospermum, 131

Schistosoma haematobium, 171, 172, 198, 199

Schistosoma japonicum, 171, 172, 198, 199

Schistosoma mansoni, 171, 172, 198, 199, 201

Schistosomiasis

S. japonicum, 171–172

spinal, 198–201

Sjögren's syndrome (SS), 264

Sleeping sickness, 168

SME. *See* Subacute measles encephalitis (SME)

Solid organ transplantation (SOT).

See Hematopoietic cell transplantation (HCT)

Sparganosis, 177

Spinal cord infections

bacterial myelopathies

spinal cord tuberculosis, 193–194

spinal epidural abscess, 196–197

spirochetes, 195–196

fungal myelopathies, 204–205

parainfectious myelitis, 182–183

pyogenic infections, 197–198

tropical/parasitary myelopathies

gnathostomiasis, 201–202

hydatid disease, 203

spinal neurocysticercosis, 202–203

spinal schistosomiasis, 198–201

viral myelitis

enteroviruses, 187–188

flavivirus, 189–190

herpesvirus (*see* Herpesvirus)

lyssavirus, 193

retroviruses (*see* Retroviruses)

Spinal cord tuberculosis, 193–194

Spinal epidural abscess, 196–197

Spinal neurocysticercosis, 202–203

Spinal schistosomiasis, 198–201

Spirochetes, 195–196

Spirometra, 177

Spondylitis, 197

Sporangiospores, 130

Sporobolomyces roseus, 131

Sporothrix schenckii, 131

SSPE. *See* Subacute sclerosing panencephalitis (SSPE)

Staphylococcus aureus, 31, 35

Streptococcus pneumoniae, 19

Stroke, 314–315

Strongyloides stercoralis, 20, 169

Strongyloidiasis, 169–170

Subacute measles encephalitis (SME), 101, 105–106

Subacute sclerosing panencephalitis (SSPE)

description of, 102

diagnosis of, 103

electroencephalographic findings, 103, 104

interferon-alpha benefits, 105

isoprinosine, 105

MRI, 103, 104

occurrence of, 101

ribavirin administration, 105

risk factors of, 102

vs. SME, 105–106

stages of, 103

Symptomatic syphilitic meningitis, 233

Systemic antimicrobial prophylaxis,

healthcare-associated

ventriculitis, 41

Systemic lupus erythematosus (SLE), 263–264

T

Tabes dorsalis, 195, 234–235

Taenia solium, 172–173

Tick-borne encephalitis, 73. *See also*

Arboviruses (arthropod-borne virus)

Tick-borne RF fever, 222

Toxocara, 170

Toxocariasis, 170

Toxoplasma encephalitis (TE), 308–310

Toxoplasma gondii, 165–166, 203

Toxoplasmosis, 165–166

Transverse myelitis, 182–184, 190–192, 202, 203

Trematode infections

paragonimiasis, 171

schistosomiasis, 171–172

Treponema pallidum, 228–230

Trichinella spiralis, 170–171

Trichinellosis, 170–171

Tropical/parasitary myelopathies

gnathostomiasis, 201–202

hydatid disease, 203

spinal neurocysticercosis, 202–203

spinal schistosomiasis, 198–201

- Tropical spastic paraparesis/HTLV-1-associated myelopathy (TSP/HAM), 184–187
- Tropical viral CNS infections, 81
- Chandipura virus, 106–107
 - chikungunya, 107–108
 - dengue, 92–93
 - enterovirus, 93–94
 - Japanese encephalitis, 85–90
 - measles, 101–106
 - Nipah virus encephalitis, 94–95
 - rabies, 96–101
 - viral encephalitis, 83–85
 - viral meningitis, 82–83
 - viral myelitis, 108–111
 - West Nile virus, 90–92
- Trypanosoma cruzi*, 166–168
- Trypanosomiasis
- African trypanosomiasis/sleeping sickness, 168
 - American trypanosomiasis/Chagas' disease, 166–168
- Tuberculomas. *See* Tuberculous granulomas
- Tuberculosis (TB), 139
- in HIV patient, 154–155
 - M. tuberculosis*, 140
 - NTM (*see* Nontuberculous mycobacteria (NTM))
 - parenchymal CNS disease, 150–152
 - pathogenesis of, 140
 - spinal cord involvement, 152–154
 - TBM (*see* Tuberculous meningitis (TBM))
- Tuberculous abscess, 152, 312–313
- Tuberculous granulomas
- CT scan, 150
 - description of, 150
 - magnetization transfer imaging analysis, 151
 - MRI, 150, 151
 - occipital tuberculous abscess, 152
 - ofloxacin, 152
- Tuberculous meningitis (TBM)
- acid-fast stains, 143
 - adenosine deaminase determination, in CSF, 143–144
 - associated features, 141
 - complications, 144
 - corticosteroid therapy, 148–149
 - CSF culture, 143
 - CSF findings, 142–143
 - dexamethasone use, 149
 - diagnosis of, 143–144
 - drug dosages and specific comments for, 145–147
 - drug resistance, 149
 - interferon-gamma release assays, 143
 - isoniazid and rifampin, 145, 148
 - MRI, 144, 145
 - nucleic acid amplification test, 144
 - patient surgery, 148
 - predictors of, 143
 - prognosis of, 150
 - severity of, 142
 - signs and symptoms, 141
- Tuberculous myelopathy, 194
- Tuberculous myeloradiculitis, 194
- Tumor necrosis factor inhibitors, 292–293
- V**
- Vaccines, 263
- Vacuolar myelopathy, 183, 184, 316–317
- Varicella-zoster virus (VZV), 191–192, 281–282
- acute viral encephalitis, 68–69
 - in children, 74
 - meningitis, 51
- Venereal disease research laboratory (VDRL) tests, 195
- Venereal syphilis, 239–240
- Ventricular drains, 30
- Ventriculoencephalitis, 313
- Ventriculoperitoneal (VP) shunt, 30
- Viral aseptic meningitis, 259
- Viral encephalitis (VE)
- AES, 83–84
 - apoptosis, 84
 - causes of, 83, 84
 - description of, 83
 - feature of, 84
 - MRI, 85
 - neuronophagia, 84
- Viral meningitis (VM), 82–83
- Viral myelitis
- acute transverse myelitis, 108–110
 - acyclovir administration, 110
 - AFP (*see* Acute flaccid paralysis (AFP))
 - enteroviruses, 187–188
 - flavivirus, 189–190
 - herpesvirus (*see* Herpesvirus)
 - lyssavirus, 193
 - retroviruses (*see* Retroviruses)
- Vogt-Koyanagi-Harada syndrome, 265–266

W

- Wegener's granulomatosis, 265
- West Nile virus (WNV), 189–190
 - incubation period, 91
 - lineages of, 90
 - outbreaks of, 91
 - treatment of, 92
- World Health Organization guidelines,
 - for postexposure prophylaxis
 - of rabies, 100

Z

- Zygomycosis
 - antifungal drugs treatment, 131
 - clinical presentation of, 130
 - CSF analysis and biopsy, 130
 - CT and NMR, 130
 - description of, 129
 - sporangiospores, 130
 - stain techniques, 130
 - surgical intervention, 131