

Virus Collector's List



Icosahedron, better known as the vaunted d20 of geeky tabletop RPGs

DNA:	RNA:
Parvo	Picorna
Papova	Calici
Adeno	Astro
Herpes	Toga
Pox	Flavi
Hepadna	Corona
	Paramyxo
	Rhabdo
	Filo
	Orthomyxo
	Bunya
	Arena
	Reo
	Retro

Enteroviruses

Picorna Family ssRNA Viruses

Members: Polio 1-3, Coxsackie A 1-24, Coxsackie B 1-6, Echo 1-34, Enteroviruses 68-72 (Hep A = #72)
 Attrib: Small, no env, stable at RT and refridge; Worldwide
 Risk: Summer, fall, child <15, 80-90% infx
 Entry: F-O, Resp drop, water-borne
 Sym: Many asym; nonspec f, diffuse rash, mal, [hemorrh] conj, fatal sep in neo; Resp: pharyngitis, herpangina (vesicles in phar, palate, uvula; CoxA; f, st, dysphagia, 1-5 shallow flat ulcer w/ red halo), URI, pneu, pleurodynia (CoxB); Card (CoxB): myocard, pericard, sharp chest pain, arrhy, card friction rub; Neuro: aseptic men!!, enc, paralys, Guillain-Barre n/v, photophobia, h, ps stiff neck, other sym; Skin: ery r w/ f, hand foot mouth (CoxA); gte w/ v, diarr, hep, orchitis, epididy, arth, myl, persist f in immune-, polio, erythema multiferma
 Test: Cult, PCR (CSF and men), sero not for individual
 Treat: Symptoms till self-recovery
 Spec: Mostly not diarr, live in GI tract, start at top & work down

Rotavirus

Reo Family dsRNA Virus - Gastroenteritis

Attrib: No env, non-lipid containing, diff to grow, only A & B common in humans
 Risk: Winter, <24 m
 Entry: F-O; Grows in upper sm intest > absorb to villi ep > cytopathic > villi shorten
 Dur: 4-7 days
 Sym: Malabsorption of glucose, Na, fat, water; severe infantile diarr!!; f/v, diarr, dehydration, electrolyte imbalance, can't drink water; mild in adults
 Test: EIA on stool
 Treat: IV fluids + electrolyte support
 Spec: "King of all GI disease"

Norovirus

Adenovirus

Calicivirus and Astrovirus

RNA Virus - Gastroenteritis

Habitat: Worldwide
 Attrib: Small round, heat acid ether resist, not cultivatable
 Risk: Winter, older children + adults, cruise ships!, casinos, nursing homes, hospitals, schools
 Entry: Water, food, shellfish
 Inc: 24-48 h
 Dur: 2-3 d
 Sym: Low f, v, diarr, cramps, h, myl, watery stools
 Test: No routine; seen on EM
 Treat: Fluid + electrolyte support
 Spec: Adult version of Rotavirus, low inoc (10)

Adeno Family dsDNA Virus - Gastroenteritis

Attrib: Not easily cultured, no seasonality
 Dur: 5-12 d (longer than Rota)
 Sym: Like rotavirus (but older age peak, less severe)
 Test: EIA
 Spec: 2nd most common cause of diarr in child <5

Gastroenteritis Viruses

Calicivirus
 ssRNA, mild illness like Rota; pediatric diarr, adults shellfish, Dx by EM, small intestine
 Astrovirus
 ssRNA, occasional sporadic outbreaks, watery diarr 2-3 d, Dx by EM

Herpes Family

Herpes simplex 1

Herpes simplex 2

dsDNA Viruses

Members: HSV, VZV, EBV, CMV, HHV6-8, Herpes Virus B
 Attrib: Ubiquitous, successful
 Donut core, icosahedral capsid, lipoprotein env, tegument
 Makes most of its own enzymes
 Easy to culture
 Spec: Champion of latent infections, acute, chronic, latent, and recurrent infections; Ability: Asymptomatic shedding

Herpes Family dsDNA Virus - Oral Herpes

Habitat: Worldwide, no known animal vectors, asym carriers
 Risk: Wrestlers at risk for skin infx
 Entry: Direct contact; latent in dorsal root ganglia
 Sym: Gingivostomatitis (infnts, toddlers): vesicles on mouth and gums ("vermillion border") > ulcers, mult tongue ulcers, adenopathy, mal, f, pain, gingival swelling/bleeding, 10-14 d > self-recovery; Adults: pharyngitis or tonsillitis; Recurrent (1/3): fever blisters, cold sores, herpes facialis; Keratoconj: "dendritic ulcer," corneal scarring [> blindness], unilat in recur
 Skin infx; Enc (any age); alter consciousness, focal neuro findings, focal EEG, CT, MRI none very good at finding
 Test: Cult w/ shell vial, swab vesicle/ulcer, blood, buffy coat, CSF, tissue biopsy, sero not for indiv, PCR for enc
 Treat: T Trifluridine (conj), steroids (recur conj), Acyc for (enc)
 Spec: Enc has 70% mort untreated, sequelae in most survivors, high autoinf w/ gingivostomatitis, conj can be from autoinfx

Herpes Family dsDNA Virus - Genital Herpes

Habitat: Worldwide
 Entry: Direct contact (sexual), latent in dorsal root ganglia, transplacental, birth
 Sym: Genital: Primary: very painful mult vesicular lesions on ery base (vulva, vagina, cervix, urethra, penis, rectum, peri-anal), may cluster and ulcerate, worse in fem, adenopathy, itch, swell, discharge, dysuria, f, mal, 2-3 w, recur; Neo: abortion, stillbirth, prematurity, skin vesicles, mouth ulcers, conj, dissem mort ~80%
 Comp: (Genital) may spread to CNS
 Test: Cult w/ shell vial
 Treat: Genital: Acyc IV/PO (primary), treat recur each episode, cont proph for freq recur; Neo: IV Acyc, C-section

Varicella zoster

Herpes Family dsDNA Virus - Varicella

Habitat: Humans only; latency in dorsal root sens ganglia ww
 Risk: CP: school children, winter/spring; Zoster: Elderly, non-seasonal, cancer pts
 Entry: Inhal > rep in orophar/resp tract mucosa > dissem via lymph/blood > rep in mononuclear lymphocytes & endo cells
 Inc: 10-20 d (avg 14)
 Sym: Varicella (Chicken Pox): Skin rash "bubble" vesicles; Herpes Zoster (Shingles, reactiv): mostly thoracic, rash on a dermatome, severe pain
 Comp: CP: Spread to lung, liver, CNS in immune-, postherpetic neuralgia in zoster
 Test: Clinical dx
 Treat: Acyc/Ig for high risk/severe, vaccine
 Spec: Single strain; can get CP from a zoster person, but not the other way around, zoster from loss of cell immun

Epstein-Barr Virus

Herpes Family dsDNA Virus - Mononucleosis

Members: Type A (common), Type B (mucosal ep only in imm-)
 Habitat: Human, higher primates, latency in B cells ps ep, ww
 Entry: High virus shedding in saliva, intimate contact, blood x; rep in nasophar/salivary ep > infx killer T cells
 Inc: 5-7 w
 Sym: Most asym or mild; Infx Mono (IM): f, mal, fat, st, pharyngitis, cervical adenitis, splenomeg, atypical lymphocytes, elev liver enz, atypical nodes, swollen uvula
 Comp: Hep (rare); Chr; Chr fat; nasophar airway obstruct; CNS: asepmen, enc; B cell lymphoma (immun-); Burkitt's lymphoma (jaw tumor); Nasophar carcinoma (China, eskimos)
 Test: Rapid slide (useless for <5), sero (VCA, EA, EBNA (last & assoc w/ clearing))
 Treat: Supportive, acyc, steroids for severe and obstruct
 Spec: Earlier infx = more mild

Cytomegalovirus

Herpes Family dsDNA Virus

Habitat: Humans only, ww
 Risk: Nonseasonal, can be latent
 Entry: Direct, transplacental!, peri/postnatal, blood/organ x, sex; asym shed in saliva, genital secretions for m-y
 Sym: Cong: asym, hearing loss, behav probs, learn disabilities; Early gestation: fulminant jaundice, hepsplenmeg, petechial r, mult organs, microceph!, moter disable, chorioretinitis, cerebral calc, 30% mort, neuro sequelae in survivors: ment retard, blindness; Normal: mostly asym, mono-like; Peri/post natal: mono-like; Org X: spiking f, myl, arth, interstitial pneu! hep, thrombocytopenia; AIDS: retinitis (most common); vis field defects, visual acuity down, ophthal "flame" hemorrh, GI: vasculitis, ulcer, diarr, ab cramps, f, men, enc, radiculopathy, myelopathy, pneumonitis (less in AIDS), adrenal infx
 Test: Cult WBCs, BAL, urine w/ shell vial; sero, PCR
 Treat: Gancic or valgancic acute + maintain, Ig for pneum, foscarnet, cidofovir, use sero-donors, gan prophyl

Human Herpesvirus 6

Herpes Family dsDNA Virus - Exanthem Subitum

Members: Types A (imm- only) and B, B most common (40:1)
 Risk: Young children, can be latent
 Entry: Oral secretions, ps urine > CD4+ T-cells, can be latent
 Sym: Asym, Exanthem Subitum (aka Roseola Infantum, 6th Disease): high f (3-5 d), then truncal macpap r (1-3 d), lymphocytosis, neutropenia; Adults (rare): f, lymphaden, hepsplenmeg like mono/hep; relapse-remit mult sclerosis; Imm-: f, r, interst pneu, leukopenia, enc
 Comp: Seizures w/ high f persist after illness
 Test: aB by day 8, cult blood mononuc cells (buffy coat) w/ balloon CPE & loss of lymphocyte clumping, PCR for enc
 Treat: Self-limited, gancic/foscarnet for imm-
 Spec: Can reactivate in imm-: stimulates reactiv of other viruses

Human Herpesvirus 7

Herpes Family dsDNA Virus - Roseola-like

Entry: Saliva, many healthy adults shed virus
 Risk: Children in later childhood, imm-
 Sym: Roseola, febrile seizures, asoc w/ CMV in organ x
 Test: Like HHV-6
 Treat: Stronger than HHV-6 vs gancic, use cidofovir
 Spec: Much less well-documented

Human Herpesvirus 8

Herpes Family dsDNA Virus - Kaposi's Sarcoma

Alias: Kaposi's sarcoma-like virus
 Habitat: NOT common except in parts of Italy, Greece, C. Africa
 Risk: Gay men, elderly in endemic, asoc w/ transplants
 Entry: Sex, non-sex, persistent shedding in oral secrete > CD19+ B cells, endothelial derived spindle cells
 Sym: Kaposi's: reddish-brown plaque/nodular lesions neoplasia, origin endothelial tissues, lesions on extremities, trunk, intern organs, lesions expand and coalesce into large tumors "piling up", spindle cell networks, RBCs in tissues; Body cavity lymphoma; Multicentric Castleman's disease; After transplant: f, cytopenias (not malignant)
 Test: Histopath of lesions, PCR, in-situ hybridization
 Treat: Poor responds to antivirals
 Spec: Closely related to EBV

Rhinovirus

Picorna Family ssRNA Virus - Cold

Members: Huge genus, 102 serotypes
 Habitat: Humans only, ww, most common cause of cold
 Attrib: Acid labile, optimum temp = 33 C, spring & fall
 Entry: Direct > nasophar/nasal passages ep cells > inflam
 Dur: 3 days coming, 3 days here 3 days leaving
 Sym: Mostly sym, high atk rate; Rhinosinusitis: sneeze, rhinorr, nasal obstruct, facial pressure, h, st (scratchy), cough, feverish-ness, prurulent nose secrete
 Comp (pretty unusual): acute bact sinusitis, acute bact otitis media, asthma, exacerbations of chrn bronchitis
 Test: Clinical Dx, deep nasal swab cult
 Treat: Antibiotics ONLY for chrn bronchitis case, treat sym, intranasal interferon alpha effective but irritating

Coronavirus

Corona Family ssRNA Virus - Cold

Habitat: Mult species, ww, 2nd most common cause of cold
 Attrib: Round, pleomorphic, medium-sized, env, "crown of thorns," winter/maybe spring
 Entry: Resp drops; SARS: Resp and F-O, survives in environmt
 Inc: 2 d
 Sym: Like Rhino; SARS: f, cough, dyspnea, st, rhinorr, chills, rigors, myl, h, diarr; 3 phases: high f, cough, dysp > improve > relapse w/ shifting pulm infl
 Test: SARS: travel history, exclude others, cult, aB, PCR
 Spec: More lower resp infx than Rhino

Adenovirus (Again)

Adeno Family dsDNA Virus - Resp Infections

Habitat: ww, latent in lymphocytes
 Attrib: No env, pentons on icosahedron, tough, survive in envirn
 Risk: Child 6 m-5 y; Resp: winter, spring; pharynconj f: swim pools = summer; Gastroent: no season; crowding, hygiene
 Entry: Direct contact (most), sm drop aero, F-O, water; resp & GI ep cells; Inc: 2-15 d (10 avg)
 Sym: 50% asym; Resp: mild self-limited cold-like; tonsillitis: thin net on tonsils (looks like strep, but in <3 y); pneu; pharcnj f: watering eye, redness, discomfort, photophobia, pre-auricular adeno, st, usually unilat conj 1-2 w; keratoconj (mostly adults): 2 w resolves; Enteric (types 40-41): watery diarr like rota or nor but longer (3-11 d), f/v, worse in imm-; Hemorr cystitis (type 11 most common): gross hematuria, urgency, frequency, f
 Test: "smudge cells" from ep necrosis, cult all but 40/41 round CPE w/ inclusions (slow to appear) shell vial, EIA for 40/41
 Treat: Hygiene, isolation, military vaccine for types 4 & 7
 Spec: Penton is toxic, suppresses MHC I

Hantavirus

Bunya Family ssRNA Virus - Hantav Pulm Syndrm

Alias: Sin Nombre Virus
Attrib: Env
Habitat: Four Corners area, but all over US; each sp affects one rodent sp, rodents are chrn infx but not ill
Risk: Spring and summer (outside, rodent contact), but don't get in winter, rural areas, lots of dust & feces in confined area
Entry: Virus in rodent feces/urine > human inhal
Sym: NO asym; 4 phases: Prodrome (1-10 d prev): f, myl, severe back and hip pain, n/v, ab pain; Pulm edema/shock (rapid; 2-5 d): acute resp distress, cough, SOB, oxygen desat > alveo flood, thrombocytopenia!, hemocone!, WBC up! (markd inc in gran cells); Spont Diuretic: spont recover 12-24 h; Convalescent: several w-m of weakness, fat, complete recover
Test: CXR central alveol infil, suspicion/history, sero, PCR
Treat: Mech ventilation, vasopressors to support BP (IV fluids just drowns their alveoli), IV ribavirin ongoing trials

Influenza

Orthomyxo Family ssRNA Virus

Members: A (most imp), B, C (gen not infx humans), A subtypes by hemagglutinin and neuraminidase
Habit: A: humans, swine, horses, ducks, birds; B&C humans, ww
Attrib: Spherical, env, H (attach/pene), N (release), M2 (uncoat) viable on surfaces
Risk: Winter, early spring, smokers, underlying cardioresp dis, children, elderly, comp in imm- (also pregnant, cancer pts)
Entry: Resp drop > resp mucosa
Test: Cult (best), CPE in 3-5 d, hemadsorption, immflour
Treat: Vaccine, amant/rimantidine vs A prophyl, treat sym: antipyretics (NO aspirin in children), antitussives, ventilator support, antivirals
Spec: Antigenic drift and shift, live vaccine can be transmitted
Elites: H5N1

Influenza Infection

Effect

Sym: degen resp ep cells w/ loss of cilia, desquam, edema, hyperemia, mononuc cell infil in lamina propria; Flu: abrupt onset, f, mal, h, myl 3-5 d; st, cough (non-prod), nasal discharge 2-4 w; Otitis media, bronchiolitis, pneu in children
Comp: lower resp, hemorr airless lungs, loss of ciliated cells, hyaline memb formation, intra-alv hemorr, interstit edema, mononuclear cell infil; Viral pneu (most by A): mild-patchy infil on CXR, severe flu syndrome, increas cough, tachypnea, dyspnea, ARDS, hemoptysis, 50% mort, pulm fibrosis & chrn lung dis in survivors; 2ndary bact pneu: f reappears, increas resp symptoms, cough (prod), usually Strep penu or Staph a; rare CNS (men and enc), myocarditis, pericarditis, acute myositis w/ myoglobinuria/ren fail

Respiratory Syncytial Virus

Paramyxo Family ssRNA Virus - Lower Resp Infx

Members: A & B Habitat: Humans and primates, ww
Risk: Child-almost all have been infx by 2 y, closed pops, imm-
Attrib: Pleomorphic, env w/ spikes, prot G for attach, prot F for fusion, no H/N, Nov to Mar, need only small inoc
Entry: Dir cntct w/ secrete, fomites, spreads readily > ciliated ep
Sym: Mostly sym, cold-like in adults, Bronchiolitis!: necrosis of ep, peribronch infil, muc obstruct, air-trapping/balloon!, expir wheezing, nasal flare, subcostal retractions, cyanosis, f < 50%, apnea! 25-30%, CXR: partial occlude, perihilar infil, hyperaeration, flat diaphragms; complete occlusion-lobar atelectasis, right middle or upper lobe collapse
Cmp: Bact ot mdia, snsitis, bct pneu (like flu), predisp to asthma
Test: Clinical, check alts, antigen!, CPE 3-5 d syncytium shell vial + immflour 2-3 d
Treat: Symp & support in norm; IV fluids, O2, vent, ribavirin
Spec: Repeated infx frequent, but less severe

Parainfluenza Virus

Paramyxo Family RNA Virus

Members: 1-4
Habitat: ww; 3: infants (URI only), 1&2 (by 5 y, LRI mostly in 6-18 m), reinf common
Attrib: Like RSV, but with H & N
Risk: Fall, 1 leading cause of croup, then 2 then 3
Sym: Croup! (laryngotracheobronchitis): f, hoarseness, barking hacking dry cough, narrow of subglottic trachea = insp stridor [> cmplt obstruct]; pneu & bronchiolitis (3 but less than RSV); mild URI (4)
Test: the cough, cult w/ immflour
Treat: Hosp (ICU) for stridor, not much for croup, steroids (not do much), racemic epi; pneu: supportive, O2, mech vent, no antiviral exists

Hepatitis

Effect

Causes: Chem tox, drug tox, inherited (Wilson's dis, etc), obstructive, infectious
Infectious non-viral: toxoplasma, leptospira, gonorrhea, chlam
Infectious vira: Hep A, B, C, delta, E, F, G, EBV, CMV
Sym: Jaundice, anorexia, mal, f (mild), dark urine, light-colored stools, r, arth, dull right upper quadrant pain, ALT AST up;
chrn: asym, cirrhosis, carcinoma
Hepatitis delta: RNA, coinfx w/ B primarily IVDUs, more fulminant course
Hepatitis E: ssRNA, enteric transmit (like A), not in US, Calici
Hepatitis G: RNA, in pops like B & C, no disease

Hepatitis A

Picornia Family ssRNA Virus - Hepatitis

Habitat: Natural in shellfish, common
Entry: F-O, water, clams & oysters, enteric transmission; shed 1-2 w before sym
Inc: 15-50 d (30 us)
Sym: Mild scleroicterus, mild ps fulminant, never chrn, can be fatal (esp if coinfx w/ B)
Test: aB (so good)
Treat: None, Ig for prophyl, vaccine

Hepatitis B

Hepadna Family (ds)DNA Virus - Hepatitis

Entry: Parenteral (blood x, needles, dialysis, IVDU), sex, vertical from mother, contagious as long as surface antigen+
Inc: 30-150 d (50 us)
Sym: Most asym, sym recover but chrn ps (10%), ps hepatoma
Test: Surface antigen (early, active infx/carrier), surface aB (late, immunity), core aB (late active dis to life long), E antigen (most close corr w/ active & contag dis), E aB (surf antigen+ noncontag)
Treat: Epiwir, lamivudine; prophyl: vaccine, Ig after exp

Hepatitis C

Flavi Family RNA Virus - Hepatitis

Members: 80% in US are 1a & 1b (most virulent, highest viral load, causes more cirrhosis & carcinoma)
Entry: Parenteral (10x less than B), sex, ??
Inc: 15-160 d (50 us)
Sym: Most asym, active infx > chrn 85%
Test: aB, PCR
Treat: Interferon (+) ribavirin, Types 2&3 easier to treat, protect blood supply
Spec: If does not resp to treatment quickly, probably never will

Measles

Paramyxovirus ssRNA Virus - Measles (First Disease)

Habitat: ww, humans only, no latency, temperate climates
Attrib: spherical env, one of the most contagious, one serot only
Risk: Late winter, early spring
Entry: Direct, inhal resp sec/large drops, transplac, shedding throughout + 6 d > resp ep/conj > dissem to other tissues
Inc: 8-12 d
Sym: Multinucleated giant cells [w/ eosinoph intranuc inclus]; Classic (severe): subclin rare, prod: v high f, mal, coryza, mild conj, sev bark cough, sneeze, severe h, Koplik's spots on buccal muc; dull red macpap r head > down (3 d); Gest: higher morb & mort; imm-: severe, ps fatal, maybe no r, giant cell pneu, subacute enc
Comp: Otitis media, diarr, pneu [ps from 2ndary bact], enc (10-20% fatal), subacute sclerosing panenc (degen over m-y, death)
Test: Clin Dx, cult resp or urine, aB
Treat: Ig, vaccine, treat sym/A, no antiviral, vit A in dev country
Spec: Giant cell/lymphocyte infil around dilated vessels! > rash

Mumps

Paramyxovirus Family ssRNA Virus - Mumps

Habitat: ww
Attrib: Pleomorphic irregular spherical, env, one serot only, highly contagious (5 d before to 5 d after)
Risk: School-aged children, Jan-May (winter - early spring)
Entry: Direct, Resp drops > resp ep > dissem to glandular/neural
Inc: 18 d (kinda long)
Sym: 30% asym, generally benign; Prod (short, nonspec): f, mal h, ear pain (from parotid gland); salivary gland swell/pain, diff swallowing, chewing; CNS: range from aseptic men to fulminant enc (5 d after parotitis); lose angle of the jaw
Comp: Epididymo-orchitis, oophoritis (more in men), pancreati, migratory polyarthrit, myocarditis, sensorineural hearing loss
Test: Parotitis, cult, sero (x-rxn w/ other paramyxov)
Treat: Vaccine, sym, no antiviral

Rubella

Toga Family ssRNA Virus - German Measles

Alias: Third Disease
Habitat: ww, humans only
Attrib: small spherical, env, glycoprot proj on surface, 1 serot
Risk: Mar, Apr, May (winter-spring but a bit later), 1st trimester
Entry: Resp sec (7 d before to 14 d after r onset), intrauterine > resp ep > dissem
Inc: r appears 16-18 d after infx
Sym: Easy & benign, 50% asym; macpap itchy r on face > spread (3 d); Congen: sensorineural hearing loss, cardiac anom, ophthalmic, neuro impair (ment retard, motor diable)
Comp: arth, acute polyarticular arthritis (more in women), neuro, 2ndary thrombocytopenia (more in children), all uncom
Test: sero, cult in congen
Treat: Vaccine, Ig

Parvovirus B-19

Parvovirus Family ssDNA Virus - Erythema Infectiosum

Alias: Fifth Disease
Habitat: ww, stable in environment
Attrib: Icosahedral, one serot
Risk: Schools in winter, most exp = infx, 1st half of pregnancy
Entry: Direct, fomites, resp drop, vertical, blood x (low risk) > erythroid precursor cells, bone marrow, fetal liver; Inc: 1-3 w
Sym: Most asym; 1st phase: reticulocytes, hemoglob, lymphos, platelet, neutrophils all down, flu-like > anemia/aplastic crisis in hema prob pts; 2nd phase (2-5 d after viremia clears): classic, r (slapped cheek), arth, h, st, coryza, arthrit; symmetric peripheral polyarthropathy [persists] (more in women)
Comp: Prolonged anemia in imm-, hydrops fetalis
Test: sero, PCR for imm-
Treat: None needed, hops for aplastic
Spec: Infx fetus can have asym mother

Human T-Cell Lymphotropic Viruses

HTLV Family ssRNA Retroviruses - AIDS

Members: HTLV I & II (common, neuro dis, ps lymphomas), HTLV III = HIV 1 (AIDS) & HIV 2 (simean, mild illness)
Habitat: Humans (Clade B most in US), ww
Risk: IVDU, homosexual men
Entry: Sex, percutaneous (needle), vert in utero, need sig blood amt/concentrated virus/deep puncture > CD4 cells > dissem
Sym: Acute: flu-like 2-3 w after infx > asym (several y) > early advanced: imm impair, f, weight loss, fat, night sweats, diarr, oral & skin lesions, seborrheic dermatitis (oily), oral candida, hairy leukoplakia, H zoster in young, CD4 200-500 > late advanced: CD4 < 200, sym like early > AIDS CD4 < 200 &/or opport infx
Test: sero!!, antigen, can cult but don't, PCR
Treat: non-HIV, 3 drugs @ once when CD4 < 350 or load > 100k, aim for undetectable viral load, need 95% compliance, prevent
Spec: Trouble when mutates to seek CXCR4 instead of CCR5, more replication w/ inc cell/immune activity

Viral Aseptic Meningitis & Encephalitis

Effect

Hematogenous our Neurotropic (HSV, HZV, Rabies only)
Men: Entero (esp Echo, Coxsackie), arthropod borne viruses, HSV, HIV, measles, mumps
Sym: f, h, photophobia, [neck stiff], n/v, lethargy, background of URI; usually mild, rarely fatal, expect complete recover
Test: Rule out other infx, CV dis, malignancy, meds; 50-100 prot low to normal glucose, 10-1000 cells, mostly lymphs
Enc: Infx: Coxsackie, Echo, HHV6, HIV, Adeno, EBV, CMV, mumps, LCM, Arbo, HSV, Rabies; Postinfx: Vaccinia, VZV, measles, Rubella, EBV, mumps, flu; Nonfix: cancer, sarcoid, lupus, vasculitis, meds; endocrine (adrenal) abnormal
Types: Acute, postinfx, slow virus, degen
Sym: Acute febrile, h, f, altered consciousness, disorient, beh change, focal neuro signs, seizures, "acting out"; poss death or perm sequellae; HS Enc: most com cause in US, no season, child/elder, begins in temp lobes, 70% mort, pers change, terror, halluc, bizarre beh, seizures (40%), no comp recover, use acyev

Arboviruses

Bunya Family RNA Viruses - Encephalitis

Habitat: ww, birds and horses primary hosts
Entry: Mosquito or tick > spread to reticuloendothelial sys > organs (liver, blood ves, brain)
Sym: May be asym, [jaundice]
CA Enc: midwest, wide US distrib, mild, small rodents/mosqui
St Louis Enc: Central US, Miss/Ohio valleys, mild, 5-10% mort, worse in elder, migratory birds/mosqui, also causes men
Western Equine Enc: rare, mild across US
Eastern Equine Enc: rare, severe, 60-80% mort, marsh birds, horses, game farm birds/mosqui
West Nile: primarily adults, many asym, can be severe, [paralyz like polio]

Rabies

Rhabdo Family RNA Virus - Rabies (Encephalitis)

Habitat: sylvatic animals (raccoons, skunks, bats)
Entry: Animal exp (don't need bite) > neurotropic, leaves other organs alone
Sym: Intracytoplasmic eosinoph inclusion (Negri Bodies)!!; mania, hyperactivity > somnolence, paralysis, hydrophobia, can't swallow, always fatal
Test: History, examine animal, negri body (pref in animal), PCR
Treat: Clean wound, Ig, repeated vaccine post-exp

Prion Diseases

Effect

Animal: scrapie, transmissible mink encephalopathy, chrn wasting disease (deer, elk, wasting w/ listlessness, salivation, loss of balance, death), bovine spongiform enceph, transmissible spongiform enceph of captive wild ruminants, feline spongiform enceph
Human: Kuru, sporadic/familial/new variant Creutzfeldt-Jakob, Gertsmann-Straussler-Scheinker disease, Fatal familial insomn
Entry: ???, corneal xplant, pituitary prod, cadaver dura, reused stereotactic devices
Sym: Cell vacuolation, fat, disordered sleep, decreased appetite, memory loss, confusion, beh change, childlike beh, ataxia, aphasia, visual loss, hemiparesis, progress over d-w; end stage: mute, akinesia, death in m-y