MYCOPLASMA, RICKETTSIAS, CHLAMYDIAS, SPIROCHETES, VIBRIOS

rvsd 4 Jul93, 3 Aug94, 3 Aug 01, 28 Feb 02, 1 Aug 03, 15 Aug 07, 10 Aug 08, 5Aug09, 6Aug10, 23Aug11, 1Apr14, 23Nov15
TFC, 2nd, p 275-299, also Jensen & Wright, Medical Microbiology, TFC’s 7th, pp 304-, 8th: 316-333, Bauman: 595- 618

GRAM NEGATIVE BACTERIA, UNUSUAL BECAUSE OF MISC. CHARACTERISTICS

MYCOPLASMAS: no cell wall, cholesterol strengthens membrane. Penicillin resistant, pleomorphic
Mycoplasma pneumonia p 595 “walking pneumonia” 1st atypical pneumonia, hard to culture, tiny "fried egg" cols.

OBLIGATE INTRACELLULAR PARASITES

RICKETTSIAS (etc): P 607
R. rickettsia: p 602: map Rocky Mountain Spotted Fever, by ticks. Damages lead to circ. collapse
Rickettsia prowazekii: p epidemic typhus, poor hygiene, crowding, “louse-borne typhus”

CHLAMYDIA (life cycle: p 612) [military mantle: drapes around nucleus] reproduces inside vesicle in host cytoplasm.
DIAGNOSIS: inclusion bodies in infected cells.

Chlamydia trachomatis: p 613, 614 (rough tumor): most common STD, 1st cause of NGU in men
(mostly asymptomatic in ñ. Causes lymphogranuloma venerum. most common cause of
blindness
Chlamydia psittaci: parrot fever, ornithosis, flu-like symptoms

SPIROCHETES (axial filament around which they are spiraled is characteristic feature) (p 616)
Treponema pallidum (turning thread) very fragile. P 617
Stages of syphilis: 1st p 30 days=chancre,
2nd= 4 mo: rash
3rd p4-30 yrs: gumma (tumor), neurosyphilis stages.
T.p. crosses placenta, Ab may not protect. Rate 2/105
Borrelia burgdorferi Lyme disease, trans’m’n: deer tick
“target like” erythema (p 618-620)
Borrelia recurrentis, p 621 relapsing fever
spread by ticks or lice, poor hygiene, forest cabins:
Leptospira interrogans (fine coil) zoonosis, infect kidneys, excrete in urine:
dog, cat, swine, rodents. Rodent control is best prevention

DELTAPROTEOBACTERIA
SULFUR REDUCING BACTERIA
Desulfovibrio: p 336 reduce S or SO4 to produce H2S in mud and intestines... Corrodes iron pipes

EPISILON: slender Gm- rods, helical or vibrioid. (microaerophilic) (p 622)
Vibrionaceae: slightly curved, most non-pathogenic
Vibrio cholerae, p 623 asiatic cholera: choleragen increases GI perm, mucinase and endotoxin
intensely irritate mucous membrane, causes rice water diarrhea. trans: fecal-
oral route (monotrichous), can lose 20 quarts/day = 40 lbs...
V. parahaemolyticus gastroenteritis fr marine shellfish in sewage polluted waters, “explosive”
diarrhea
Campylobacter jejuni(campylo- = curved) zoonotic enteritis: com cause of diarrhea, fever,
severe abdominal pain, (bloody stool poss.) Proper sanitation prevents.
& C. coli (curved rod) single polar flagellum, causes abortion in domestic animals
Campylobacter fetus: causes 80% of peptic ulcers in humans (p 627) (lophotrichous)
Helicobacter pylori Barry Marshall 1982, demonstrated it by dosing himself... Nobel prize.
flora of gums, often in dental abscesses