EMERGING VIRUSES

DATE: Thursday, April 11, 2019 – 8:30 am

READING ASSIGNMENT:

Murray Medical Microbiology, 7th Edition, Chapters 58, 60 & 61 and cdc.gov

EDUCATIONAL GOAL:

You will be able to describe how arboviruses are transmitted to humans and the methods available to control arbovirus infection.

KEY CONCEPTS AND LEARNING OBJECTIVES:

To attain the goal for this lecture you will be able to:

- Define the terms vector and reservoir and describe how humans fit into the four natural life cycles of the arboviruses
- Describe the “urban cycle” of arbovirus transmission
- State methods available to prevent arbovirus infection
- Describe the transmission, pathogenesis and appropriate control measures for the following disease: Yellow fever, Dengue fever, West Nile Virus, Zika virus, St. Louis Encephalitis, Eastern Equine Encephalitis, Colorado Tick Fever, Hemorrhagic fever (Ebola), Hantavirus Respiratory Disease, California Encephalitis virus and LaCrosse Virus, Severe Acute Respiratory Syndrome (SARS), Middle East Respiratory Syndrome (MERS).
CONTENT SUMMARY

Arthropod-borne virus diseases
  Epidemiology
  Clinical Syndromes
  Laboratory Diagnosis
  Prevention and Control

Yellow Fever Virus
Dengue Virus
West Nile Virus
Zika Virus
St. Louis Encephalitis Virus
Equine Encephalitis Viruses – VEE, WEE, EEE
Chikungunya Virus
California Encephalitis Virus
Tick-Borne Flaviviruses -Colorado Tick Fever, Omsk Hem. Fever

Viruses that emerge from bats (in addition to rabies!):
Ebola Virus Hemorrhagic Fever
Severe Acute Respiratory Syndrome (SARS and MERS)
Hendra/Nipah virus

Hantavirus Pulmonary Syndrome - a zoonotic infection

KEY WORDS

- alphavirus
- encephalitis
- flavivirus
- Hemorrhagic Fever
- Equine Encephalitis Virus
- Yellow Fever Virus
- Arbovirus
- Orbivirus
- West Nile Virus
- positive polarity
- reservoir
- vector transmission
- Colorado Tick Fever
- St. Louis Encephalitis Virus
- Dengue Virus
- Ebola virus
- Hantavirus
- Filoviridae