

Vibrio vulnificus

www.chagroup.com



Vibrio vulnificus

- causes wound infections, gastroenteritis, or a syndrome known as primary septicemia
- septicemia occurs in the immunocompromised and those with chronic liver disease, chronic alcoholism, and hemochromatosis
- most common agent of serious infections caused by the genus *Vibrio* in the United States
- incidence is 0.5 cases per 100,000 population in coastal areas
 - 2/3 of cases are primary septicemia
- cases have been reported in many areas of the world
 - Israel, Japan, China, Spain, and Turkey



The Organism

- gram-negative
- motile
- curved, rod shaped
- lactose-fermenting
- halophilic
 - requires a salt-rich environment
- opportunistic pathogen



Reservoir/Sources

- free living element of flora of estuarine environments
- ubiquitous in the coastal waters of the United States
- commonly associated with shellfish
 - routinely isolated from oysters during warm summer months



Mode of Transmission

- immunocompetent normal hosts
 - contaminating an open wound with sea water harboring the organism
 - lacerating part of the body on coral, fish, etc., followed by contamination with the organism
 - recreational - boating accidents
 - occupational - oyster shuckers and fishermen
 - infectious dose unknown
- high risk populations
 - ingestion of raw or undercooked seafood, especially shellfish such as oysters
 - infection can presumably occur with doses of less than 100 total organisms



Signs and Symptoms

- immunocompetent normal hosts
 - gastroenteritis
 - abdominal pain
 - fever
 - vomiting and diarrhea
- high risk populations
 - primary septicemia
 - mortality rate is greater than 50%
 - over 70% have distinctive bullous skin lesions



Incubation Period

- usually 12 – 72 hours after eating raw or undercooked seafood

Diagnosis and Treatment

- diagnosis is obtained by culturing of the organism from wounds, diarrheic stools, or blood
- antibiotics are necessary for treatment of *Vibrio vulnificus* infections
- necrotic tissue should be debrided
 - severe cases may require fasciotomy or limb amputation

Prevention

- do not eat raw oysters or other raw shellfish
- avoid cross contamination of cooked seafood and other foods with raw seafood and juices from raw seafood
- cook shellfish thoroughly
 - for shellfish in the shell, do not eat those that do not open during cooking
 - eat shellfish promptly after cooking
- avoid exposure of open wounds or broken skin to warm salt or brackish water, or to raw shellfish harvested from such waters
- wear protective clothing (e.g. gloves) when handling raw shellfish

