Vibrio Vulnificus

Vibrio vulnificus is a germ (*bacterium*). It is in the same family as those that cause cholera. It normally lives in warm seawater. It is part of a group of vibrios that are called "halophilic". This is because they require salt.

CAUSES

This germ can cause disease in those who:

- Eat unclean (*contaminated*) seafood.
- Have an open wound that is exposed to seawater.

Persons who are immunocompromised, especially those with chronic liver disease, are at risk for V. vulnificus when they eat raw seafood, particularly oysters. A recent study showed that people with these pre-existing medical conditions were 80 times more likely to develop V. vulnificus bloodstream infections than were healthy people. The bacterium is often isolated from oysters and other shellfish in warm coastal waters during the summer months. It is naturally found in warm marine waters. So people with open wounds can be exposed to V. vulnificus through direct contact with seawater. There is no evidence for person-to-person transmission of V. vulnificus.

SYMPTOMS

- In healthy people, ingestion of V. vulnificus can cause:
  - Vomiting.
  - Diarrhea.
  - Belly (*abdominal*) pain.
- In immunocompromised persons, particularly those with longstanding (*chronic*) liver disease, V. vulnificus can infect the bloodstream. This can cause a severe and life-threatening illness. Symptoms may include:
  - Fever and chills.
  - Decreased blood pressure (*septic shock*).
  - Blistering skin sores (*lesions*).

These bloodstream infections are fatal about 50% of the time. Fortunately it is a rare disease.

V. vulnificus can also cause an infection of the skin when open wounds are exposed to warm seawater. These infections may lead to skin breakdown and ulceration. Persons who are immunocompromised are at higher risk for invasion of the organism into the bloodstream and potentially fatal complications.

DIAGNOSIS

V. vulnificus infection is diagnosed by routine stool, wound, or blood cultures. The lab should be notified when this infection is suspected by the caregiver. A special growth medium can be used to increase the diagnostic yield. A caregiver should suspect this organism when patients have:

- Gastrointestinal illness, fever, or shock after eating raw seafood, especially oysters.
- A wound infection after exposure to seawater.

TREATMENT

V. vulnificus infection is treated with medications which kill germs (*antibiotics*). After successful treatment, there are usually no long term problems.

PREVENTION

- Do not eat raw oysters or other raw shellfish (especially if you are immunocompromised or have liver disease).
- Cook shellfish (oysters, clams, mussels) thoroughly.
- For shellfish in the shell, either:
  - Boil until the shells open. Continue boiling for 5 more minutes.

- Steam until the shells open. Then continue cooking for 9 more minutes. Do not eat those shellfish that do not open during cooking. Boil shucked oysters at least 3 minutes. Or fry them in oil at least 10 minutes at 375°F.

- Avoid cross-contamination of cooked seafood and other foods with raw seafood and juices from raw seafood.
- Eat shellfish right away after cooking. Refrigerate leftovers.
- Avoid exposure of open wounds or broken skin to warm salt or brackish water, or eating raw shellfish harvested from such waters.
- Wear protective clothing (e.g., gloves) when handling raw shellfish.

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