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| **Aula do dia 17/04/2017**  |
| Micro-organismos | Vibrios*, Yersinia enterocolitica* e *Chronobacter* |

**Alunos: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

P1: Qual a sintomatologia típica da infecção causada por *Yersinia enterocolitica?* Que alimentos podem estar envolvidos na disseminação desse patógeno?

P2: Que grupo de indivíduos está sob risco de contrair infecção por *Cronobacter*? Quais alimentos envolvidos? Que medidas de controle podem ser utilizadas?

P3: Quais os sorogrupos de *V. cholerae* envolvidos com as epidemias de cólera? Quais os principais fatores de virulência que fazem destes sorogrupos os responsáveis pelas epidemias?

P4: Complete as informações que faltam sobre os vibrios patogênicos na tabela a seguir:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| *Especies* | *Sintomas* |  |  |  |  |
|  | ***Diarreia****(severa ou moderada)* | ***Sepsis****(ausente, pouco frequente, comum)* | ***Infecção de ferida****(ausente, pouco frequente, comum)* | ***Fontes de transmissão*** | ***Mecanismo de virulência*** *(liste o principal ou se é variavel)* |
| *V. cholerae toxigenico* |  | *ausente* | *ausente* |  |  |
| *V. cholerae não toxigenico* |  |  |  |  | *Variável* |
| *V. parahaemolyticus* |  |  |  |  |  |
| *V. vulnificus* |  |  |  |  | *Variável* |

P7: Discuta os casos apresentados, associando ao possível agente patogênico causador.

**CASO 1**

In the summer of 2006, New York City, New York State, Oregon, and Washington reported a total of 177 cases of  \_xxx infection, of which 122 have been associated with 17 clusters. A cluster has been defined as a group of 2 or more ill persons who were linked to the same shellfish source (e.g., shared a meal at the same restaurant or obtained shellfish from the same seafood market). Certain clusters were associated with restaurants, others with seafood markets, and recreational harvesting. 03 patients were hospitalized; no fatalities reported.

A confirmed case of \_ xx\_ infection is defined as an infection confirmed by isolation of the organism from a patient's stool. A probable case is defined as gastroenteritis in a person who can be epidemiologically linked to a confirmed case. This incidence of infection is much higher than expected. Subtyping of \_ xx\_ isolates has indicated that they are serotype O4:K12. Traceback investigations have linked contaminated oysters and clams to harvest areas in Washington and British Columbia; shellfish from these sources was distributed to seafood markets and restaurants nationwide. Additional infections likely have been undetected or under-reported.

\_ xx\_ infection causes acute, self-limited gastroenteritis characterized by diarrhea, abdominal cramps, nausea, vomiting, fever, and chills of 1-3 days duration, with onset usually within 24 hours after eating contaminated food. Cases are most commonly reported during warmer months and are often associated with eating raw or under-cooked shellfish or other cooked foods that have been cross-contaminated by raw shellfish. Studies suggest that approximately 20 \_ xx\_ illnesses exist for each laboratory-confirmed case reported.

 Shellfish bed monitoring is an important element of food-safety control but is not sufficient to prevent illnesses because xx multiply rapidly, even low levels of \_. xx\_ in harvested products can rapidly increase to infectious levels if not rapidly refrigerated after harvest and maintained at proper temperatures during transport, processing, and storage (i.e., <50 F [<10 C]).

The microbiology laboratory analyzing the sample should be notified
that xx illness is suspected so that appropriate methods (ideally, culture in the selective medium thiosulfate-citrate-bile salts-sucrose [TCBS] agar) can be used to isolate the organisms. To decrease the risk for \_xx\_ infection, shellfish should be thoroughly cooked to kill illness-causing pathogens.

**Qual o agente patogênico?**

**Por que?**

**CASO 2**

# A Taichung hospital warned the public Friday [9 Sep 2011] to make sure to fully cook seafood at barbecues after a man recently died 48 hours upon swallowing a single raw oyster.The victim, a 50-year-old man, sought medical treatment after developing fever. He was still conscious when he checked into the hospital, but soon his blood pressure dropped, and he became delirious. Doctors suspected he had a bacterial infection caused by the bacteria \_xx\_ and treated him. The patient had alcoholic liver cirrhosis and died 2 days later due to shock and multiple organ failure.

# Huang Ming-yi, director of the hospital said that in a case like this, the average person would only have diarrhea or cellulitis, a skin infection characterized by swelling, warmth, redness and pain. But the victim had low capability for detoxing his body because of his liver condition, and could not tolerate the bacterium. Huang said the bacteria often appear in the coastal areas of southwestern Taiwan and in the aquacultural industry. He noted that there are over one million liver disease and diabetic patients at risk for severe consequences of this infection. They should be on guard and not eat raw seafood, especially shellfish.

**Qual o agente patogênico?**

**Por que?**

**CASO 3**

Em setembro de 2016, um surto envolvendo o consumo de leite achocolatado contaminado com uma bactéria resultou na hospitalização de 36 crianças residentes em uma cidade americana. Os sintomas apresentados incluíram dores abdominais, diarreia, febre branda e vômito. Dez crianças (maioria >5 anos de idade) relataram dor aguda do lado direito do abdome, pouco abaixo do umbigo. A investigação epidemiológica revelou que o surto estava associado ao consumo do leite achocolatado que foi contaminado na planta de produção.

**Qual o agente patogênico?**

**Por que?**