1. No almoço de domingo na casa do Seu Chico foram servidos salada de alface, tomate e cebola, frango assado e macarronada e de sobremesa bomba de creme para as crianças (*“elas adoram!*”) e abacaxi para os adultos. Aproximadamente 1 hora após o almoço todos os 6 filhos do seu Chico começaram a sentir náuseas e pouco tempo depois apresentaram vômitos em jato e diarreia. O quadro durou aproximadamente 6 horas e depois ficaram bem, sem necessidade de auxílio médico (mas os pais quase ficaram loucos!). Como havia sobras dos alimentos servidos, estes foram encaminhados para um laboratório para análise. Foi constatado que não havia *Salmonella* em nenhum dos alimentos e que o único produto que apresentava populações elevadas de indicadores de higiene era a bomba de creme. Com o laudo em mãos, Seu Chico foi à padaria onde havia comprado as bombas para reclamar, mas Seu Manuel, o dono da padaria, disse que seu produto não poderia ter causado o problema, pois não apresentava *Salmonella*.

Responda:

1. qual o provável agente causal?
2. como pode ter chegado ao alimento?
3. como esta contaminação poderia ter sido evitada?

2. FOODBORNE ILLNESS - INDIA: (MAHARASHTRA) SUSPECTED, STAPHYLOCOCCAL

Date: Thu 25 Feb 2016. Source: Times of India, Times News Network (TNN)

<http://timesofindia.indiatimes.com/india/247-fall-ill-after-eating-meal-at-Maharashtra-school/articleshow/51142712.cms>  
  
A total of 247 students of a zilla parishad [district council] school in Vikramgad [town] of Palghar district [Maharashtra] fell ill after they consumed lunch in the school on [Thu 25 Feb 2016]. The condition of 17 students is said to be unstable.

The students of the school in Kasa Budruk village in Vikramgad were served 'khichdi' (a mixture of rice and dal [lentils]) by Isckon [International Society for Krishna Consciousness, a religious organization] at around 1.45 pm. Students of classes I to VII had their lunch in the school premises and left for their classrooms.  
  
Within half an hour, around 50 students of various classes complained of stomachache, vomiting, and giddiness. Their teachers took them to the Talvad primary health centre where doctors suspected food poisoning. By evening, almost all the students complained of stomachache following which all of them have been admitted to the district hospital in Vikramgad. A student said, "I felt uneasy while I was eating the khichdi, but decided to finish it. It was a while later that I experienced severe stomachache."

Isckon has been providing lunch, mostly in the form of khichdi, to the students of the schools since several years. The Kasa police station has registered a case. District health officials reached the school and seized the food. Samples of the food have been sent for testing. [Byline: Sandhya Nair]

3. LISTERIOSIS - USA: FATAL, UNPASTEURIZED SOFT CHEESE, RECALL  
\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*  
A ProMED-mail post [http://www.promedmail.org](http://www.promedmail.org/)  
Date: Thu 9 Mar 2017  
Source: NBC News [edited]  
<http://www.nbcnews.com/health/health-news/two-dead-raw-milk-cheese-contaminated-listeria-n731416>  
  
  
A total of 2 people have died and 4 more have been hospitalized in an outbreak of [listeriosis] linked to cheese made using raw milk, federal investigators said [on Thu 9 Mar 2017]. They've traced to cases to Ouleout cheese, a soft cheese made by Vulto Creamery in New York. The cheese is distributed nationally and it's all being recalled.  
  
"As many as 6 people infected with the outbreak strain of listeria have been reported from 4 states since [1 Sep 2016]," the Centers for Disease Control and Prevention (CDC) said in a statement. "All 6 people were hospitalized and 2 people from Connecticut and Vermont died. One illness was reported in a newborn. Epidemiologic and laboratory evidence indicate that **soft raw milk cheese made by Vulto Creamery of Walton, New York, is the likely source of this outbreak**." Raw milk that has not been pasteurized can carry bacteria such as listeria.  
  
"CDC recommends that consumers do not eat, restaurants do not serve, and retailers do not sell recalled soft raw milk cheeses made by Vulto Creamery," the agency said. Vulto Creamery has recalled all lots of Ouleout, Miranda, Heinennellie, and Willowemoc soft wash-rind raw milk cheeses.  
  
"\_Listeria monocytogenes\_ is a bacterium which can cause serious and sometimes fatal infections in young children, frail or elderly people, pregnant women and others with weakened immune systems," the Food and Drug Administration said. "Although healthy individuals may suffer only short-term symptoms such as high fever, severe headache, stiffness, nausea, abdominal pain and diarrhea, listeria infection can cause miscarriages, stillbirths and fetal infection among pregnant women."  
  
[Listeriosis] outbreaks are common. CDC estimates that [listeriosis] puts 1600 people into the hospital each year and kills 260 of them.  
  
[byline: Maggie Fox]

4. LISTERIOSIS - USA (07): ICE CREAM, WHOLE GENE SEQUENCING DETECTION  
[http://www.promedmail.org](http://www.promedmail.org/) Date: Tue 5 May 2015  
<http://news.sciencemag.org/biology/2015/05/sequencing-finds-listeria-unlikely-places>  
  
The listeria outbreak that killed 3 and prompted Texas ice cream company Blue Bell Creameries to recall every one of its products late in April 2015 is the latest example of how genetic epidemiology is changing the detection of foodborne illnesses. 2 years ago, the CDC in Atlanta launched a pilot program to sequence the DNA of every listeria sample tied to an illness in the USA -- all told, about 800 per year.  
  
"Now that we're turning whole-genome sequencing on, we're identifying outbreak after outbreak," says Brendan Jackson, a medical epidemiologist with CDC. "We're also finding smaller outbreaks that we weren't able to find before." They're also finding them originating in previously unsuspected foods, from caramel apples to ice cream. The new detection method can identify gaps in the food safety system, especially when used alongside similar efforts by the FDA to sequence samples from food and from the places where food is prepared, from factories to distribution centers, Jackson says.  
  
In the Blue Bell case, a quick-thinking nurse was the first to link 5 cases in Kansas with the tainted ice cream. For more than a year, Infection Prevention and Control Coordinator Karen Bally at Via Christi Health in Wichita and the rest of the team had been searching for anything to tie together the infections, which started with a single illness in January 2014. Traditional epidemiological tools showed nothing. Diet records were inconclusive, and samples from the 1st 4 patients seemed unrelated using the standard technique for DNA analysis.  
  
When the 5th patient fell ill in early 2015, standard DNA analysis finally showed a link to a previous case -- patient number 3. The state of Kansas sent a sample to CDC for confirmation. Whole-genome sequencing revealed that the 2 samples of \_Listeria\_ were a near-perfect match. "That was like the 'aha' moment," Bally says.  
  
But they still didn't have a source. Bally and her team scoured FDA recalls and public health listservs for reports of tainted foods. Nothing. Then, she heard about a quality problem with one of their vendors --Blue Bell ice cream. Unknown to Bally, FDA sampling had turned up listeria in a Blue Bell distribution center in South Carolina, and inspectors had traced it to a production facility in Texas. Without explanation, Blue Bell stopped delivering its most popular products to Bally's hospital.  
  
Bally called the state health department. They contacted FDA, which had just sequenced the tainted ice cream samples. When they compared those results to the CDC samples, they found another match. CDC then looked into other unsolved listeria cases. By sequencing samples still in storage, they confirmed 5 additional cases, dating back to 2010.  
  
"It's not something that we've seen before -- being able to look at cases so far back," Jackson says. And although it took many tools to track the current outbreak, whole-genome sequencing "made all the difference," he says.  
  
Before now, investigators had 2 main tools for tracking cases: diet interviews and DNA analysis known as genetic fingerprinting. Fingerprinting shows the degree to which two different samples of DNA are related. But it isn't 100 percent accurate -- in some cases, different bacterial strains can appear related and similar strains can appear to be unrelated.  
  
Whole-genome sequencing, in contrast, allows scientists to accurately compare every single DNA base pair in samples, giving them "a much sharper look at the differences and similarities in the strains," Jackson says….  
[Byline: Catherine Matacic]