SCHOOL OF MEDICINE
OFFICE OF THE MEDICAL INVESTIGATOR

Report of Findings

Case Number: 2018-07403

GOMEZ ALONZO, FELIPE

County Pronounced: Otero
Law Enforcement: United States Border Patrol
Agent: Noel Palacios
Date of Birth: 5/19/2010
Pronounced Date/Time: 12/24/2018 11:48:00 PM
Central Office Investigator: Bailey Johnson
Deputy Field Investigator: Sparks, Melody

CAUSE OF DEATH

Complications of influenza B infection with Staphylococcus aureus superinfection and sepsis

MANNER OF DEATH

Natural

Lori Proe DO

Medical Investigator, Assistant Professor of Pathology

All signatures authenticated electronically

Date: 3/25/2019 12:14:34 PM

Medical Investigator **Medical Investigator Trainee**

Lori Proe DO

SUMMARY AND OPINION

PATHOLOGIC DIAGNOSIS

I. Influenza B infection with Staphylococcus aureus superinfection and sepsis
- A. Clinical history of sore throat, nasal congestion, cough and subjective fever
  - 1. Positive test for influenza B, December 24, 2018
- B. Clinical history of abdominal pain, vomiting blood and becoming unresponsive
- C. Pulmonary hemorrhage and edema by gross examination
  - 1. Combined lung weight = 635 grams (expected combined lung weight = 290 grams
  - 2. Sanguineous right pleural effusion = 100 mL
  - 3. Sanguineous left pleural effusion = 200 mL
- D. Laryngotracheobronchitis, bronchopneumonia and interstitial pneumonitis by histology
  - 1. Marked intra-alveolar hemorrhage, edema and occasional hyaline membranes by histology
  - 2. Extensive bacterial colonies by histology
- E. Bacterial blood and lung cultures positive for Staphylococcus aureus
  - 1. Immunohistochemical evidence of Staphylococcus aureus per Centers for Disease Control and Prevention testing
  - 2. Molecular identification of methicillin-sensitive Staphylococcus aureus per Centers for Disease Control and Prevention testing
- F. Nasopharyngeal, right and left lung viral reverse transcriptase polymerase chain reaction testing positive for influenza B Victoria
  - 1. Molecular evidence of influenza B virus per Centers for Disease Control and Prevention testing

SUMMARY AND OPINION

This 8-year-old boy, Felipe Gomez Alonzo, died of complications of an influenza B infection with a Staphylococcus aureus superinfection and sepsis.

According to a review of the available medical records and a report from the New Mexico Office of the Medical Investigator Field Deputy Medical Investigator, Felipe and his father were in the custody of United States Customs and Border Protection (CBP) on the morning of December 24, 2018. Felipe complained of a sore throat, nasal congestion, cough and a subjective fever and was taken to a local hospital for evaluation. At the hospital, testing for a Streptococcal infection of the throat (rapid Group A Strep test) was performed and was negative. Testing for influenza B was positive. Felipe was prescribed ibuprofen (pain reliever and fever reducer) and was released back into the custody of CBP that afternoon. Later that evening, Felipe's father requested that Felipe be taken back to the hospital. Felipe reportedly complained of abdominal pain, vomited blood and became unresponsive on the way to the hospital. Resuscitative attempts were performed upon arrival to the hospital but were unsuccessful.

Felipe is not known to have had any history of significant medical problems.

Review of the postmortem computed tomography (CT) scan revealed a possible cyst within the skull, next to the brain.

Autopsy examination revealed a boy with no injuries other than a small scrape of the left hand.

Internally, there were collections of bloody fluid in the chest cavities. The lungs were very heavy and appeared bloody. There were no internal injuries or other signs of natural disease.

Examination of tissues from the upper airways with a microscope revealed inflammation and damage of the linings of the airways. Examination of the lungs with a microscope revealed inflammation and damage of the large and small airways and of the small air sacs (alveoli). There was a large amount of bleeding within the alveoli. Multiple bacteria were also visible by microscopic examination of the upper airways and lungs.

Examination of the brain by a specialist (neuropathologist), showed tissue overlying part of the brain that was consistent with the cyst seen on the CT scan. There were no other significant abnormalities of the brain.

Laboratory testing of the blood and of swabs of the lungs detected Staphylococcus aureus, a type of bacteria. Laboratory testing of the fluid within the spinal canal (cerebrospinal fluid) detected no bacteria. Laboratory testing of the nasal area and of the lungs detected influenza B, a type of virus.

Samples of tissue from this case were sent to the Centers for Disease Control and Prevention in Atlanta, Georgia for additional testing, which also detected influenza B virus and Staphylococcus aureus bacteria in the airways and lungs.

Toxicology testing of the blood detected diphenhydramine, an antihistamine drug sold as Benadryl at a level that would be consistent with therapeutic dosing. No other drugs or alcohol were detected.

Influenza viruses typically cause respiratory infections with signs and symptoms including fever, headache, muscle pain, fatigue, cough, sore throat and nasal discharge. In some cases, influenza infections may cause milder symptoms similar to those of the common cold. Influenza infections are often treated with supportive measures such as rest, increased fluid intake and drugs to control symptoms. If a diagnosis of influenza is made early in the course of the illness, antiviral drugs can shorten the duration of symptoms and may decrease the likelihood of complications.

One complication of influenza infection is pneumonia. Pneumonia causes the airspaces of the lungs to fill with inflammatory cells and fluid, making breathing difficult. The influenza virus damages the lung and respiratory tract tissues and can cause bleeding and fluid accumulation within the lungs. Damage from the influenza virus infection can increase the chances of bacteria causing a secondary infection of the lungs

It appears that Felipe was infected with the influenza B virus, which damaged the lungs and led to bleeding and fluid collections in and around the lungs, which impaired his breathing. The influenza B infection damaged the lung tissue and allowed Staphylococcus aureus to grow in and infect the lungs. The bacterium also entered the blood stream causing sepsis, a severe medical condition. The presence of bacteria in the blood stream can cause changes of the body that lead to decreased blood supply to body organs. Sepsis is associated with a high mortality rate, even with appropriate medical treatment.

The manner of death is natural.