

Case 1

History

A 6 years old girl came home from school feeling miserable on a cold day. She had a high fever and complained of an itchy throat. She had difficulty swallowing any food, refused to eat and cried almost all evening. The next day her grandpa took her to physician's clinic. It was noted that several children from her school had reported sore throat recently. The patient had received all standard childhood immunizations at the appropriate times.

Vital sign

Temperature	39.4°C
Pulse	120/min
Respiratory rate	16/min
BP	110/60 mmHg

Physical examination

Red throat (pharyngeal erythema) with petechiae on the soft palate and patchy grayish-whitish tonsillar exudates were seen (Figure 1). Enlarged and tender anterior cervical lymph nodes were also noted. The patient did not have any cough. Chest X-ray was not done.

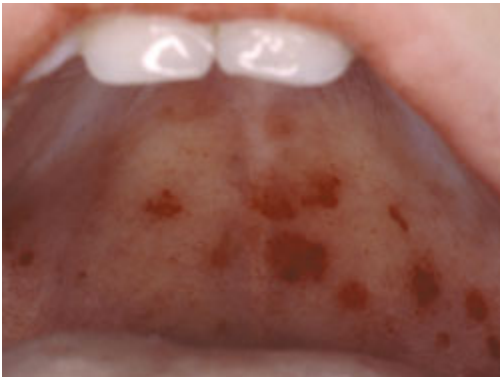
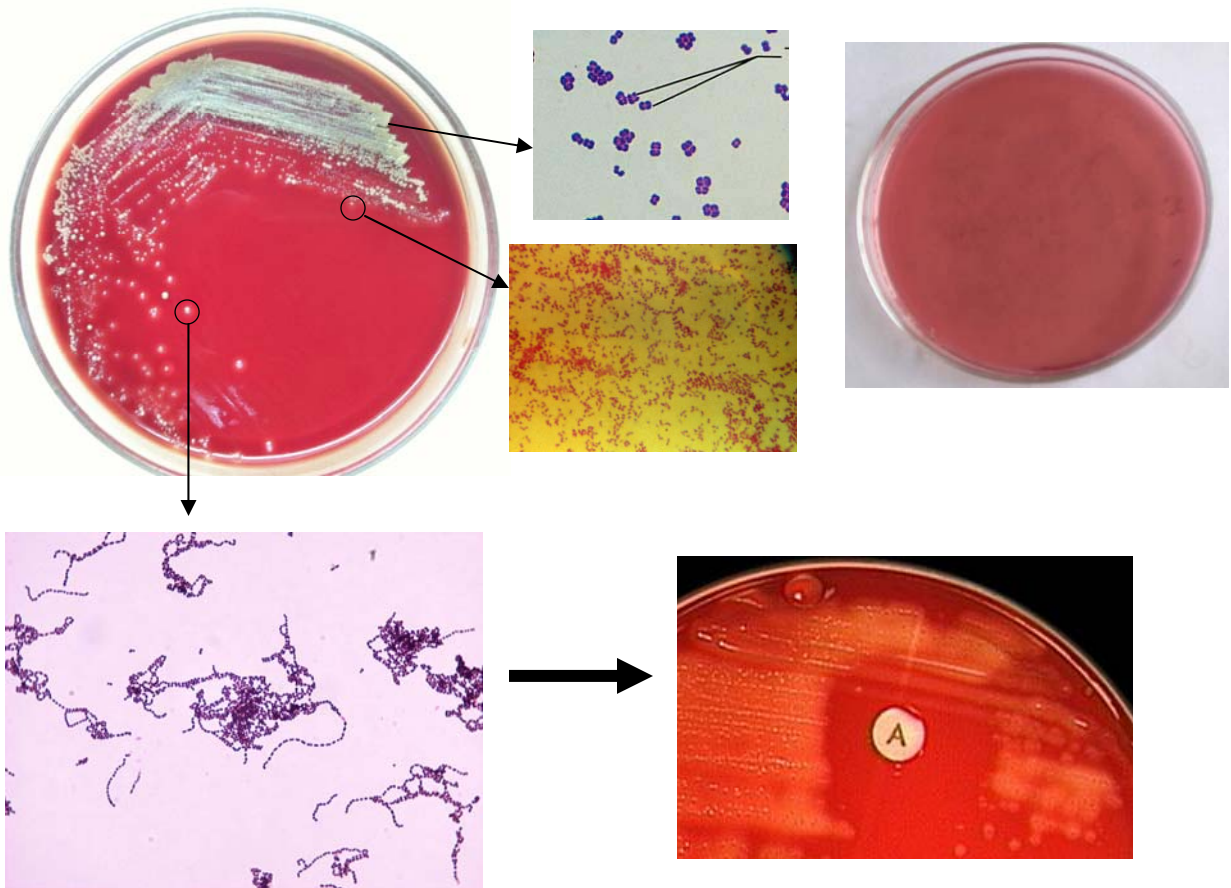


Figure 1

Laboratory studies

WBC	12,300 / μ l
Differential	PMN 76%, lymphocyte 20%, monocyte 6%
Monospot test	Negative

Culture



1. With sign and symptoms, can you differential diagnosis for the suspected pathogens in this case?
2. Report colonies morphology from both culture media.
3. From the culture results, which organism could be the causative agent?
4. What is the pathogenicity of the disease? Indicate all virulence that causes each abnormality.
5. Which is another one grown organism on the blood agar medium, and it is significant in this case?
6. If the patient does not receive proper treatment, list all symptoms that could happen to this patient?

Case 2

History

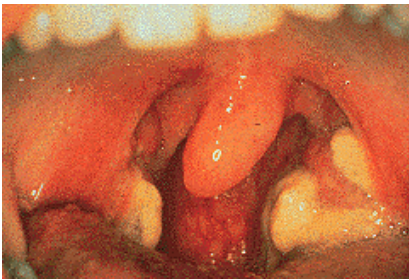
A 9 years old girl presented with low-grade fever, sore throat, and malaise for 2 days. These symptoms developed 10 days after arriving at a summer camp. Recently, she was noted to have a dry cough and difficulty breathing. Her parents then brought her to the emergency department. The child's immunization status could not be determined. She had been otherwise healthy.

Vital sign

Temperature	38.9°C
Pulse	140/min
Respiratory rate	45/min
BP	92/50 mmHg

Physical examination

The patient was in severe distress; respiratory stridor was presented; exudative pharyngitis and bilateral cervical adenopathy were noted. A yellowish, leathery, thick membrane extending to the uvula and soft palate was also seen. Chest X-ray was normal.



Laboratory studies

WBC	18,400 / μ l
Differential	PMN 92%, lymphocyte 8%
Platelet count	320,000 / μ l
Hct	42%
BUN	30 mg/dl
Creatinine	1.0 mg/dl
O ₂ saturation	84%

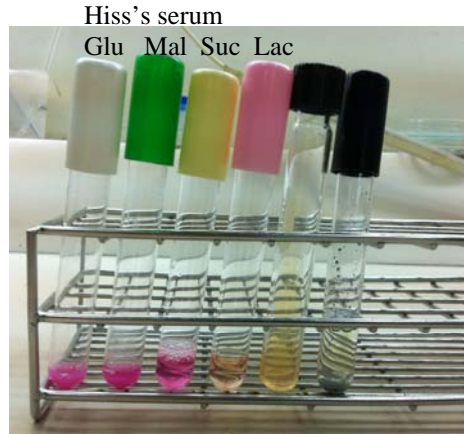
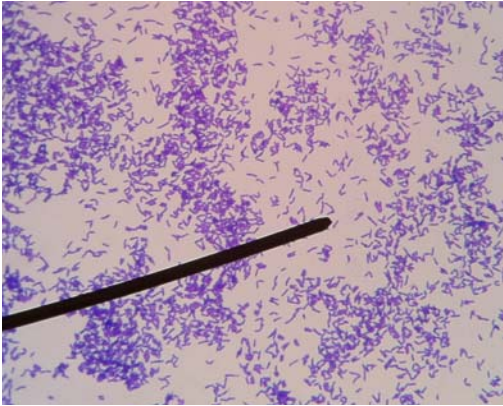


Blood agar

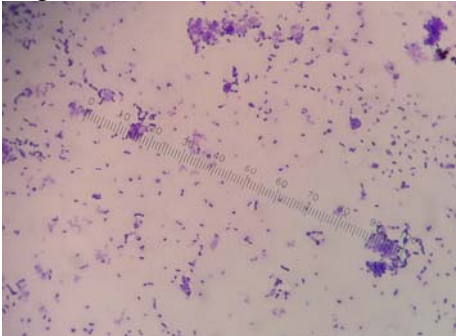


Potassium tellurite

Organism 1



Organism 2



1. With sign and symptoms, can you differential diagnosis for the suspected pathogens in this case?
2. Report colonies morphology from both culture media.
3. From the culture results, which organism could be the causative agent?
4. What is the pathogenesis of the disease? Indicate all virulence that causes each abnormality.
5. What will be the proper additional tests to confirm the suspected disease?
6. What will be the proper treatments for the disease?
7. How to prevent the disease?
8. What are the complication consequences of this pathogenic infection?
9. Which is another one grown organism on the blood agar medium, and it is significant in this case?