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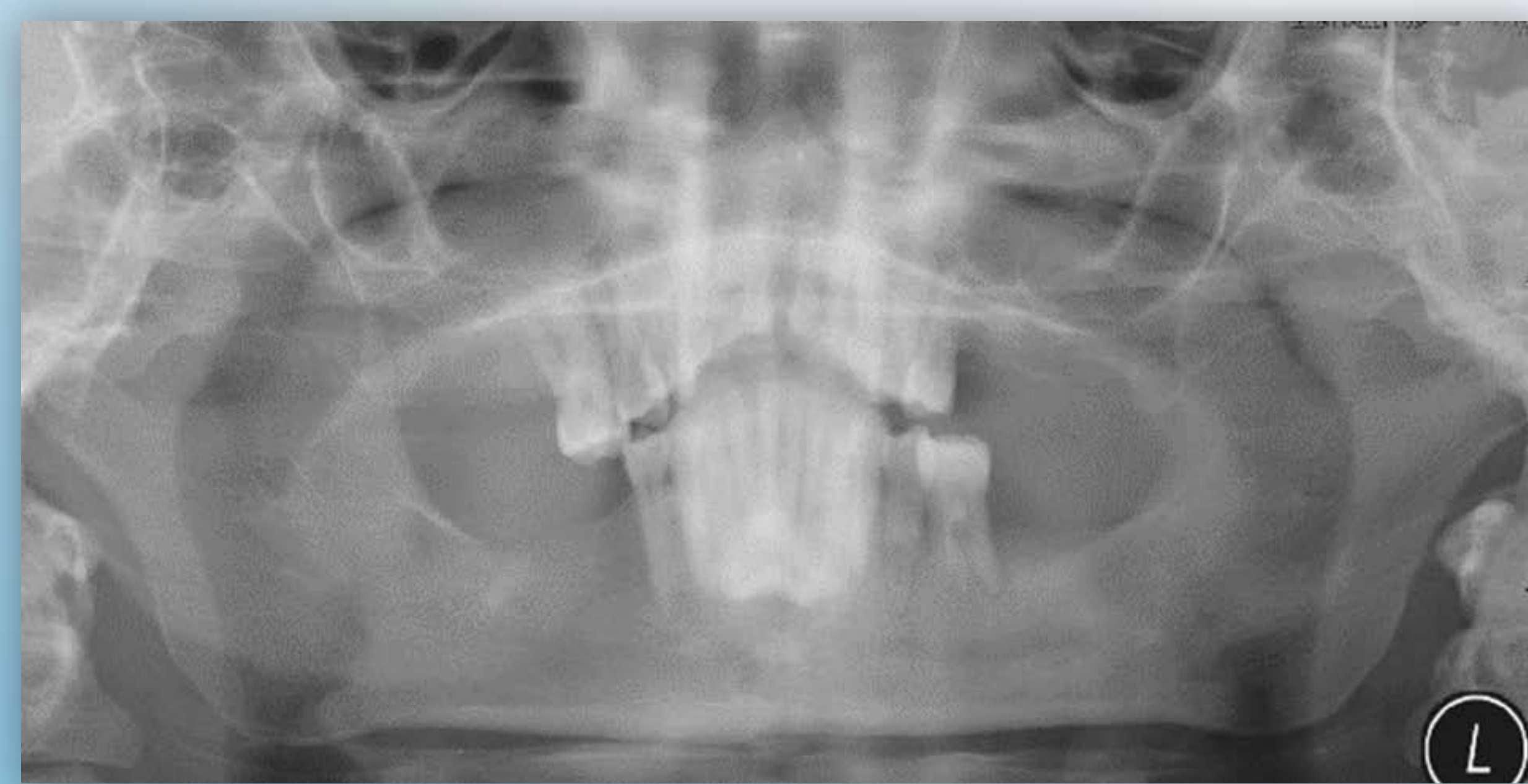
Atypical Presentation of Actinomyces

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Case Presentation and Clinical Course:

Patient is a 24 year old female with medical history of recurrent hidradenitis suppurativa and sickle cell trait transferred from an outside hospital with chief complaint of right sided jaw pain. Patient actually was admitted there with complications from her hidradenitis suppurativa. Jaw pain had been present for three weeks duration and progressively deteriorated. There were no inciting incidents. Physical exam revealed significant tenderness and swelling over the entire right mandible along with right anterior cervical lymphadenopathy. Outside hospital imaging of CT scan and later MRI showed 3.8 x 4.5 cm lesion concerning for possible osteomyelitis versus soft tissue sarcoma. She was transferred to LVHN for possible open biopsy and debridement.



Mandible panorex did not show plain radiographic evidence of osteomyelitis.

MRI neck with and without contrast - T2 hyperintensity and enhancement throughout the right masticator space, extending along the right side of the skull amongst the fibers of the temporalis muscle and through the fibers of the pterygoid muscles into the pterygoid fossa. The process surrounds the right mandibular ramus, which is largely T2/STIR hyperintense. This is best seen to involve the articular process. The temporomandibular joint is also T2/STIR hyperintense and enhancing.

Infectious diseases consultation recommended open

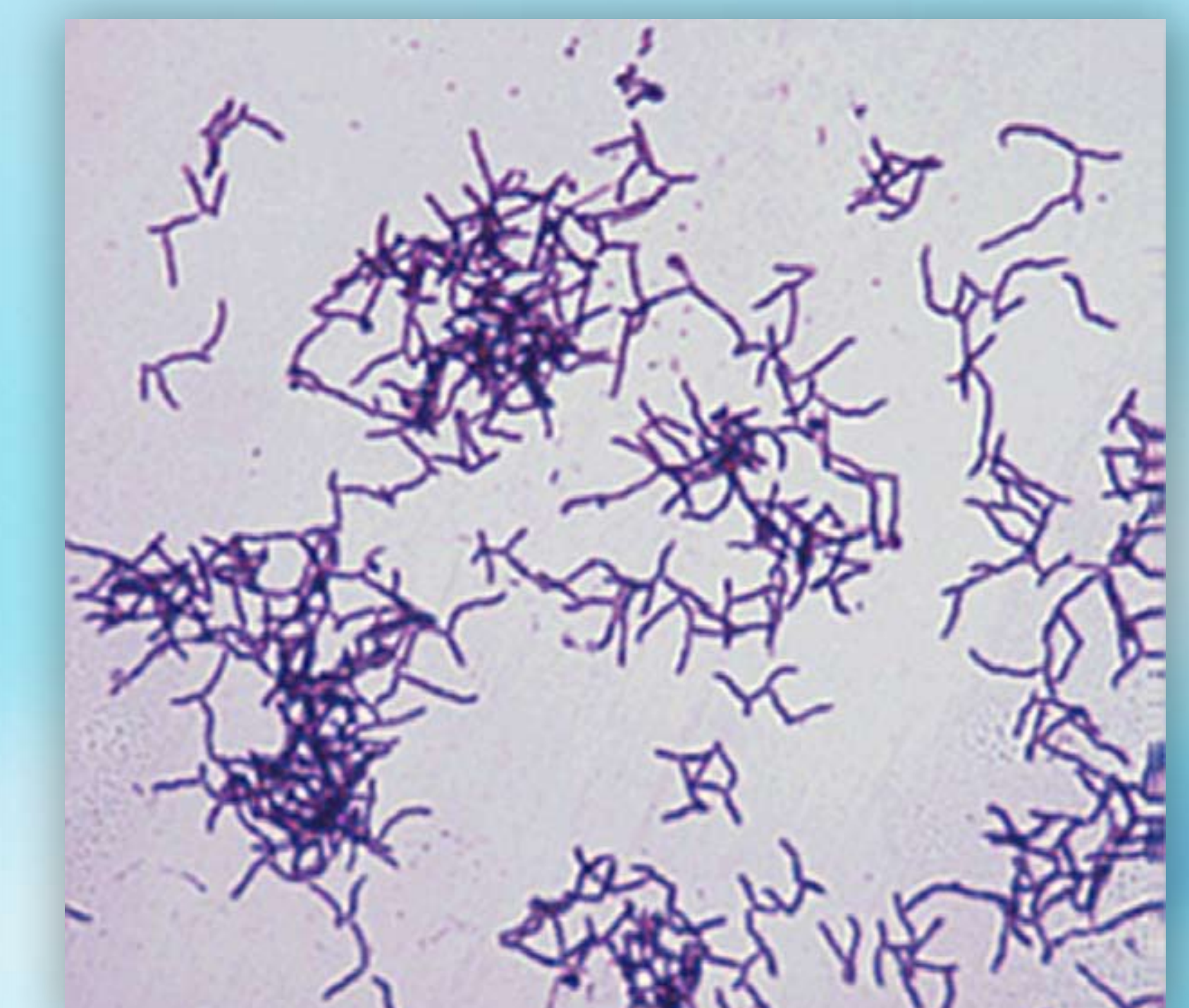
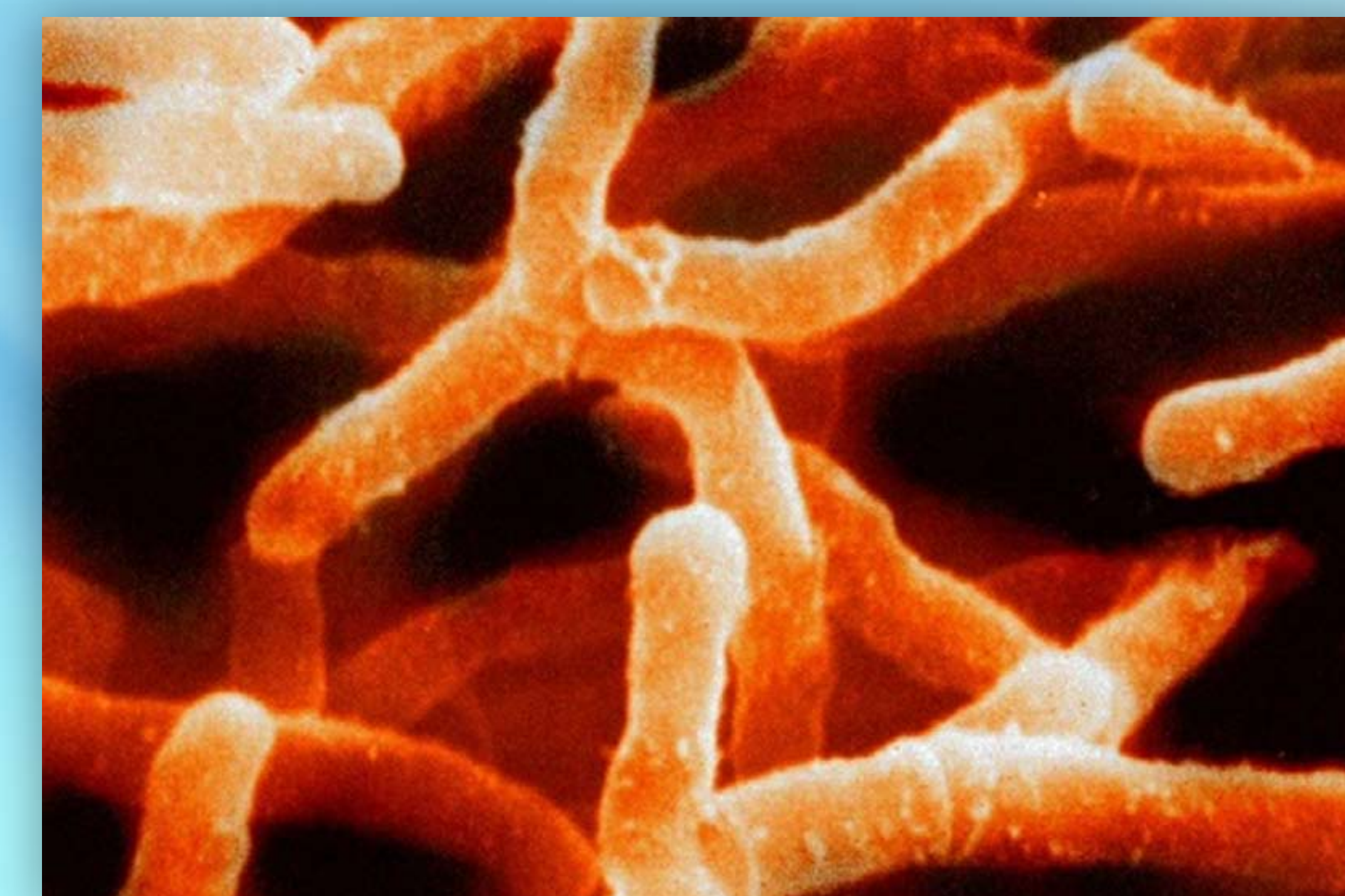
debridement and bone culture of the affected area. Oral surgery intervention, which had to be provided at another tertiary hospital center, included open bone biopsy of the lesion, debridement, and teeth extraction. Operative cultures showed maxillary and mandibular Actinomycotic osteomyelitis. Patient was begun on Unasyn and transferred back to LVHN. At that time, infectious disease recommended changing antibiotics to IV Penicillin G 2 million units every 4 hours for a total treatment duration of 6-8 weeks. She was then discharged home in stable condition with instructions to follow up with weekly laboratory studies and infectious disease as an outpatient.

Eight days after discharge and prior to outpatient follow-up, patient was seen in the ER with recurrent right sided jaw pain and swelling. Repeat imaging at an outside institution showed features concerning for worsening osteomyelitis. She was transferred back to LVHN where her Penicillin dose was increased to 3 million units every 4 hours. Because of continued pain and persistent swelling, patient had to be sent for repeat OMF evaluation with the question of repeat surgical intervention. She was eventually found to be pregnant and decision was made not to undergo further operative intervention. Antibiotics were changed to IV Unasyn 3 grams every 6 hours and she was discharged home with adequate pain control.

Patient has followed up with the outpatient infectious disease clinic. Plan was to continue treatment with Unasyn for a total of eight weeks from the date of debridement with eventual transitioning to oral Amoxicillin. The length of treatment with oral antibiotics will be determined by repeat imaging and monitoring of CRP/ESR.

Discussion

Actinomyces is a chronic, spreading, supportive, granulomatous bacterial infection. It is known for forming characteristic sulfur granules within soft tissue infections. It is actually common to be chronically colonized by the bacteria after age two. Patients typically at risk for infection with *Actinomyces* are those with underlying dental caries, recent dental procedures, diabetes, chronic immunosuppression, radiation therapy to affected area, or malnutrition. A disruption in the mucosal surface is usually key to pathogenicity of the disease. Our patient did not meet any of these traditional risk factors for developing infection. She was ruled out for underlying HIV infection during her first admission. The only chronic medical condition that our patient carried was hidradenitis suppurativa, which did require frequent hospitalizations and multiple courses of antibiotics. Patients with this inflammatory condition can develop secondary infections of the lesions. Typical isolates are staph and strep species. Interestingly, *Actinomyces* can mimic hidradenitis in soft tissue. Our patient's flares usually took place in her inguinal and axillary regions. During her admission, she did have active lesions in these areas. Cultures taken from her wounds showed no bacterial growth. This case illustrates the importance of obtaining a tissue biopsy prior to treatment. Additionally, it also illustrates the need to keep *Actinomyces* on the differential with any mandibular infection as the bacteria has a high predilection for growth in these areas. It also brings up the possibility for future research to determine if patients with hidradenitis suppurativa are at an increased risk of developing active infections with *Actinomyces* species.



Actinomyces israelii (Todar's Online Textbook of Bacteriology)

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