

Diffuse large B-cell lymphoma with osteomyelitis of the jaw

The Trios Internal Medicine Residency Program

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Introduction

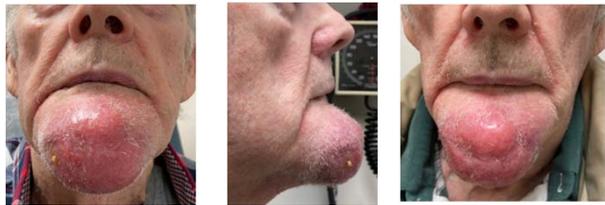
Diffuse large B-cell lymphoma (DLBCL) is the most common type of non-Hodgkin's lymphoma, representing 30% of cases. DLBCL can develop in the lymph nodes or extranodal sites such as the gastrointestinal tract, testes, thyroid, skin, breast, bone, or brain. However, it is quite rare in the oral cavity, making up only 2-5% of cases. DLBCL usually presents with a painless, rapid swelling in the neck, axilla, or in groin. The other commonly associated symptoms are night sweats, fever, and unexplained weight loss. It is uncommon to present as a painful, tender, erythematous protruding chin mimicking an oral cavity infection.

Case Presentation

79-year-old Caucasian male with an underlying history of Parkinson's disease who presented with a one-year history of tooth problems.

Initially, symptoms started with ruptured teeth a year ago. He then has multiple dislodged several teeth, which were eventually removed by his dentist. Pt was initially treated empirically with oral Clindamycin, Azithromycin, and Sulfamethoxazole-Trimethoprim without relief. He then developed a gradual swelling of the anterior part of the jaw with purulent drainage. The patient was referred to an Ear, Nose, & Throat specialist where he had undergone fine-needle biopsy of the jaw. The aspiration revealed a copious amount of very thick purulent material from the punctured site revealed atypical cells. Due to the odontogenic nature of the appearance of the infectious process, he was eventually referred to the Oral surgeon as well as infectious disease. The patient's symptoms continued to worsen and eventually admitted for the treatment and evaluation of the chronic osteomyelitis of the jaw that failed outpatient therapy.

On admission, the physical exam of the jaw revealed a 6x6 cm indurated, erythematous, tender jaw protruding anteriorly with no evidence of palpable cervical lymph nodes.



Diagnosis

CT scan of the maxillofacial area showed multiple lower teeth periapical lucencies with the anterior cortical destruction and demineralization of the right mandibular symphysis and body extending to the right ramus. The findings represent multiple dental abscesses with apical infection in multiple mandibular teeth and multiple lytic lesions consistent with chronic osteomyelitis.

Results of the Deep wound cultures of the drainage from the jaw showed normal skin flora. Fungal and Acid-Fast Bacillus (AFB) smear and cultures were also negative. He also has negative screening for HIV and Chronic hepatitis B and C.

The patient then had an **incision and drainage (I & D) and biopsy with excisional curettage and debridement** of the right mandibular symphysis, body, and angle by the oral surgeon.

Pathological examination of the jaw specimen revealed multiple fragments of fibro connective tissue with extensive involvement of a malignant tumor. The tumor was composed of highly pleomorphic cells with enlarged nuclei, and prominent nucleoli, markedly enlarged and irregular nuclei, multiple nucleoli. Mitotic figures are frequently seen. Immunohistochemically stain was positive for CD20, CD79a, CD10, BCL-6, Ki-67, and BCL-2 positive in the scattered T cells.

Based on the stains, a diagnosis of diffuse B cell lymphoma was made. Deep wound cultures taken at the time of I&D showed normal skin flora without any AFB or fungal growth.

A **PET scan** demonstrated significant hypermetabolic activity soft tissue mass seen with the involvement of the anterior and right mandible. Mediastinal lymph nodes demonstrated mild uptake, making him **Stage IIE**.

Treatment

The patient received emergent radiation therapy to the mandible. He received a total of 26 Gy in 13 fractions followed by 6 cycles of R-mini CHOP therapy (Cyclophosphamide, Doxorubicin, Vincristine, and Prednisone plus the Rituxan).

The patient was also simultaneously treated with IV antibiotic therapy as the clinical picture, laboratory, and imaging findings cannot rule out the presence of secondary infection from the oral cavity. Given his history of penicillin allergy, he was initially started on IV Meropenem but later transitioned to Ertapenem and then to IV ceftriaxone and Clindamycin due to adverse drug reaction from Ertapenem. He received a total of 8 weeks of antibiotic therapy.

During his chemotherapy, the patient developed MRSA infection of the jaw compounded by severe stomatitis with throat culture positive for herpes simplex and Candida albicans. Rapid Group A streptococcus screen and herpes zoster PCR of the oral cavity were negative. He did receive a month course IV Daptomycin combined with oral Fluconazole, and Acyclovir.

After the completion of his chemotherapy, he then developed neutropenic fever with septic shock secondary to MRSA and Acinetobacter bacteremia due to the presence of perianal cellulitis and perirectal abscess. The patient had I&D done of the anal abscess combined with aggressive wound care. He was discharged to an extended care facility there he completed 8 weeks of IV vancomycin and Meropenem with wound care.

The patient has since returned to his home and been doing well. His jaw has returned to his previous appearance. The latest PET scan after the treatment showed an interval decreases in size and metabolic activity of soft tissue mass on the anterior aspect of the body of the mandible and metabolic activity of the lytic lesion in the body and right ramus of the mandible, as well as an interval decrease in size and metabolic activity of mediastinal lymph nodes.



Summary

This case illustrates the importance for providers to consider the presence of other differential diagnosis in a common medical condition that fails to respond to conventional treatment.

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