

Case Report: Lymphoma of base of The Tongue, Consideration to mycological examination along with immunohistochemistry



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ABSTRACT

Introduction: Malignant Lymphoma of the Head & neck (oral cavity or buccal mucosa) is uncommon and of the tongue fewer. Commensal bacteria and fungi that may become pathogenic often colonize the oral cavity and cause severe problems in people with cancer and immunocompromised. We describe a 76-year-old man with a history of dysphagia and a bulk lesion from his base of the tongue that was diagnosed as diffuse B cell lymphoma. He was followed up with Doxorubicin, Rituximab, Vincristine sulfate and radiotherapy. However, oral lymphoma of the tongue is very uncommon and it should be review in the differential assessment of numerous malignant lesions in this region. Due to weakened immune system and susceptible to infection in cancer patients, attention to opportunistic microorganisms, especially fungi that cause severe problems in cancer patients, can help them to choose better treatment. Fungal culture from new samples and genotyping of microorganisms along with Immunohistochemistry of biopsy can monitor treatment and clinical follow-up.

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Introduction:

Cancers from Head & neck are the 6th most common in the entire world with more than 500,000 new cases by the year(1). Lymphoma, after squamous cell carcinoma and salivary gland cancers, is the 3rd common malignancy in the head & neck region (3-5% in the oral cavity) and it is uncommon and of the tongue even fewer (2). Head & neck lymphomas typically seem as an asymptomatic mass; nevertheless, they may be correlate with pain, fever, difficulty in speech, dysphagia and weight loss. These Symptoms are fewer in non-Hodgkin lymphoma compared with Hodgkin lymphoma. Oral bacteria and fungi could show a significant role in the creation of poor oral hygiene (3). These commensal floras may become pathogenic. Actinomyces are anaerobic gram-positive bacteria with branched rods that progress part of this flora and Actinomycosis in the base of the tongue is an uncommon form (only 3%)(4). Fungi cause severe problems in people with cancer and immunocompromised. According

Case report

At the august in 2017, a 76-year-old heavy smoker man with a height of 172 and weighing 70 kg noticed for the first time a change of the left side on the tongue with progressive dysphagia and throat discomfort, but no complaints of weight loss, night sweats or fever. He was admitted to the Ear, Nose and Throat clinic of the Amirmomenin Hospital (Rasht, Guilan, Iran). Oral investigation showed a clear irregularity of the tongue base. There was no ulceration on the surface of the tongue. No x-rays and oral exams were performed except CT scan but Systemic examination including a respiratory, cardiac, central nervous system was normal with CT scan (computed tomography) and armpit, groin, neck, jaw and abdominal were evaluated for lymph nodes and were normal. CT scan revealed a raised mass in the base of the tongue (figure 1).

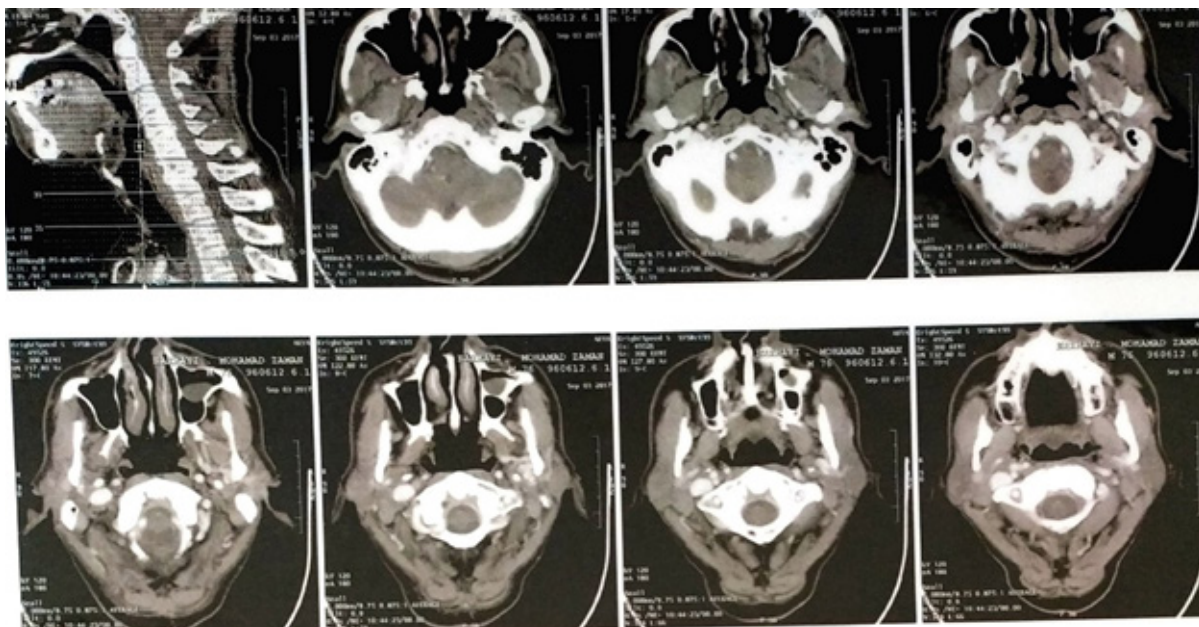


Figure 1. Computed topography of the Head & neck before treatment showing resolution of the mass

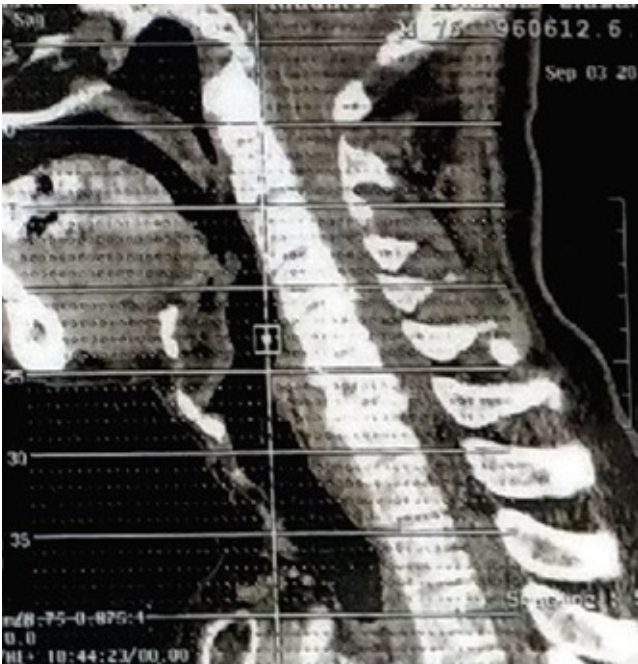


Figure 1. Computed topography of the Head & neck before treatment showing resolution of the mass

A biopsy, consists of cream- brown elastic tissues with totally measuring $1.4 \times 1.4 \times 0.5$ cm, was performed fragment of buccal mucosa, sub epithelial stroma diffusely by small to medium-sized atypical lymphocytes some with nucleoli (figure 2).

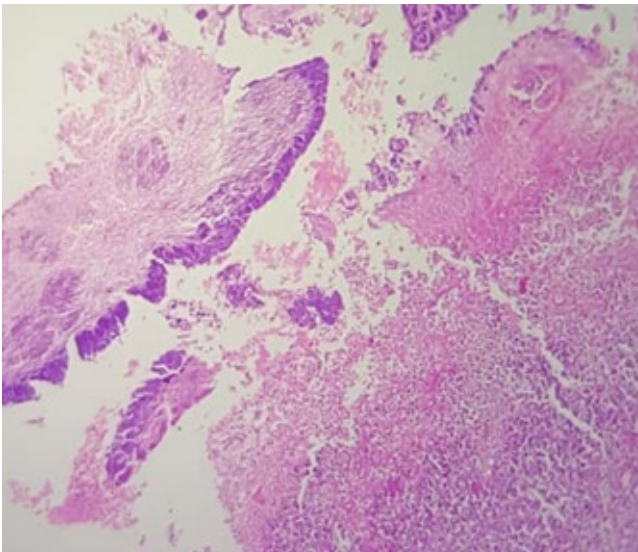


Figure 2. Histological examination of the tumor process (PAS, x4)

The mucosa in foci covered by fibrinoleukocytic exudate admixed with fungal structure (figure 3)

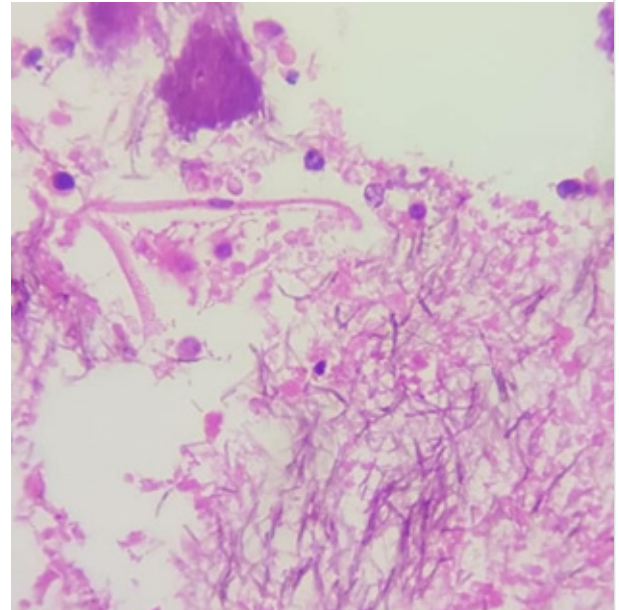


Figure 3. Fungal structure of the tumor process (PAS, x40) and Actinomyces (figure 4)

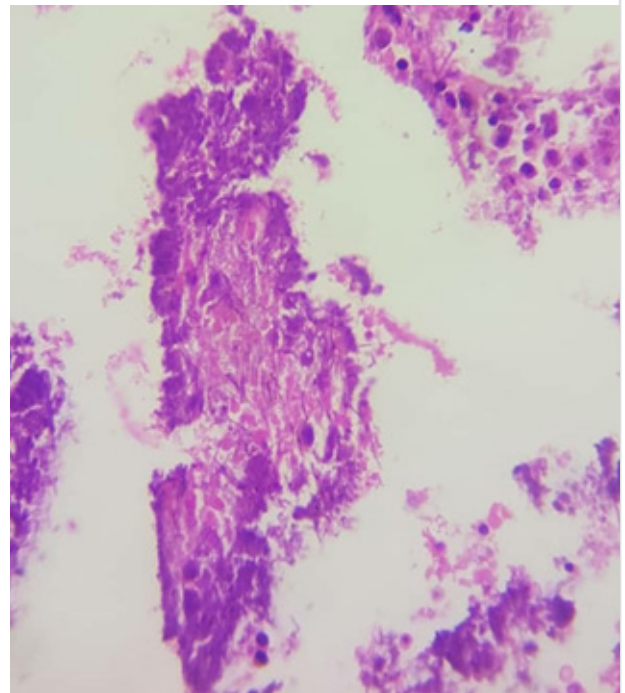


Figure 4. Clumps of basophilic filamentous Gram-positive bacteria, characteristic of Actinomyces infection (PAS, x40).

(PAS staining). Tumoral cells are positive for CD20 (surface antigen of all stages of B cell and it is very useful to detecting conditions such as B-cell lymphomas and leukemia(6,7) (figure5)

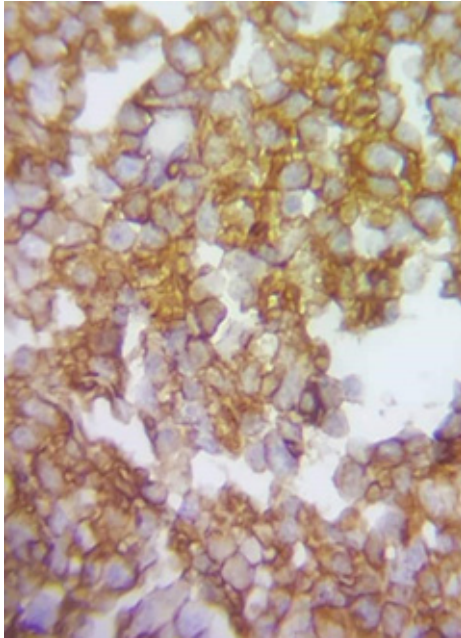


Figure 5. Immunohistochemically, tumor cells were strongly positive for CD20 (magnification, x100).

negative for CD3 (T-cell co-receptor is found to the film of all mature T-cells, and used to differentiate them from superficially B-cell and myeloid neoplasms(8) (figure6)

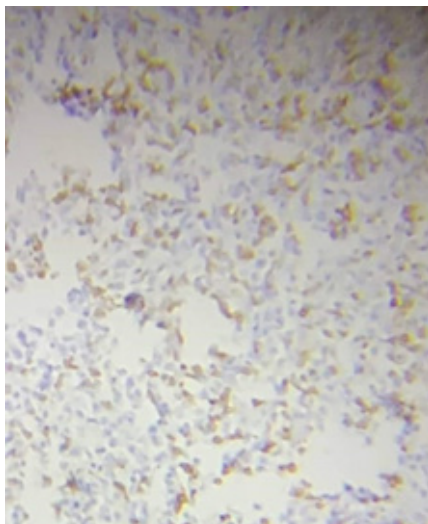


Figure6. Immunohistochemically, tumor cells were negative for CD3 (magnification, x40).

and 55-60% of tumoral cells are positive for Ki67(mitotic index that is necessary for cellular proliferation)(9) (figure 7)

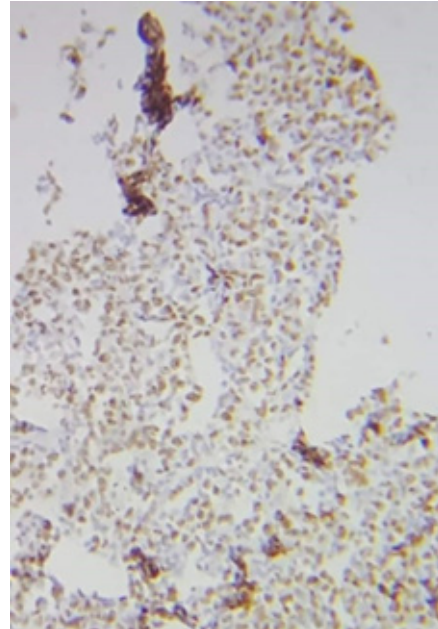
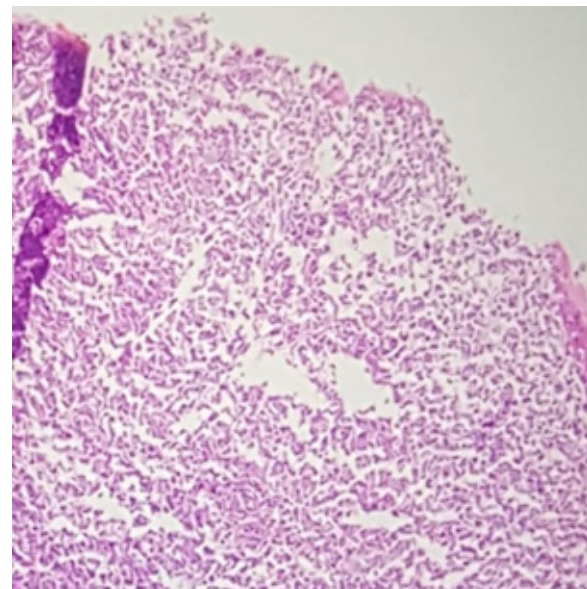
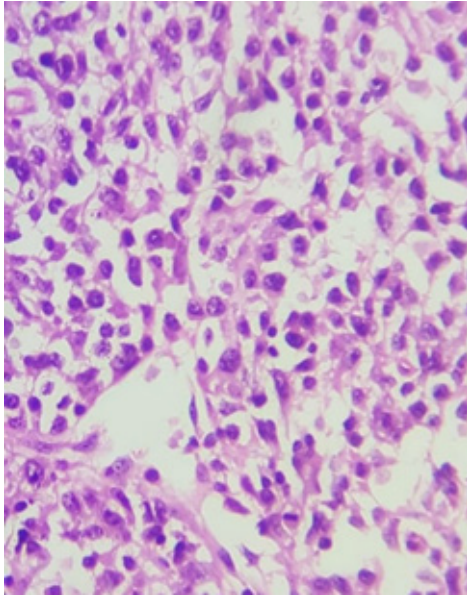


Figure 7. Immunohistochemically, tumor cells were positive for Ki67 (magnification, x40).

(IHC staining). The diagnosis was performed diffuse malignant lymphoma (B cell type) (figure8).



(a)



(b)

Figure 8. Diffuse B-cell lymphoma (a). Diffuse growth pattern with large cells with pleomorphic nuclei and prominent nucleoli (b). (PAS x100)

Our patient was treated with Rituximab (anti CD20) (375 mg/m² or 1.83mg/kg IV over 3-8 hours, once weekly for 4-8 doses) and Doxorubicin HCl liposome (60-75 mg/m² or 1.83mg/kg IV over 1-3 hours, once every 21 days, for 6 steps), and Vincristine sulfate (1.4 mg/m² or 1.83mg/kg IV in combination with this drugs , every week) and then radiotherapy (25 steps, 5 times in a week). He had only lost 13 kg at the radiotherapy and he was suffering urinary tract infection and Aphthous stomatitis during chemotherapy. During this time, he received antibiotics (gentamycin, 3mg/kg/day IV/IM and Ciprofloxacin, 250mg/12hr PO) and prednisolone (20 mg orally per day, Maintenance dose). This disease lasted 8 months from diagnosis to treatment and after completion of study treatment, his entire body was re-examined for metastatic and lymph nodes involvement and he was followed for 2 years.

Discussion

Cancers from Head & neck are the 6th most common in the entire world and it typically seems as an asymptomatic mass(4).

Lymphoma, after squamous cell carcinoma

and salivary gland cancers, is the 3rd common malignancy in the head & neck region (3-5% in the oral cavity) and it is uncommon and of the tongue even fewer (2). When non-Hodgkin lymphomas do occur, large- B cells will diffuse and histopathology as well as immunohistochemical evaluation of biopsy sample can help in the diagnosis (10). In our case, the mass was isolated to the tongue base and covered by sub epithelial stroma diffusely by small to medium-sized atypical lymphocytes. Symptoms of oral lymphomas include pain, fever, and difficulty in speech, dysphagia and weight loss, our case has progressive dysphagia and throat discomfort, but no complaints of weight loss, night sweats or fever. There are different methods in the treatment of oral cavity lymphomas. Final studies suggest multiple chemotherapy joined with radiotherapy and 2 years of follow up shown no relapse. Oral bacteria and fungi could play an important role in oral hygiene and oral cancers (1). Fungal infections are an increasing problem in cancer and immunocompromised patients and detected in 10-15% of patients with lymphoma, and diagnosis their species can help to choose the correct medicine and prevent them from being invasive (3). Actinomyces are commensal flora of the oropharynx, gastrointestinal, and urogenital tract in humans. Although actinomycosis and lymphoma have some association, only limited cases have been offered to verification the symbiosis of these two existences. Therefore, a clinician should make a differential diagnosis between the two. In most cases the culture is negative and the identification is based on histopathology (11).

Conclusions

Due to the abating of the defense system in cancer patients, attention to opportunistic microorganisms, especially fungi, can help them to choose better treatment. Although, isolated lymphoma of the base of the tongue is extremely rare, it should always be considered in the differential diagnosis in with a sore throat. We recommended that clinicians send two specimens to the laboratory for better diagnosis of

Actinomyces and fungi structure, one for cultures in normal saline and the other for histopathology in formalin. Fungal culture from new samples and genotyping of microorganisms along with Immunohistochemistry of biopsy can monitor treatment and clinical follow-up.

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