Marginal Zone Lymphoma of Bilateral Buccal Mucosa: A Case Report

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Summary

Non-Hodgkin's lymphoma (NHL) of the mucosa-associated lymphoid tissue (MALT) is characterized by their mucosal and glandular tissue localization. Non-Hodgkin's Lymphoma (NHL) involving only buccal mucosa is a very rare presentation. The etiological factor is unknown but lots of risk factors have been associated such as infection with Helicobacter pylori, Epstein Barr virus and immunodeficiency. Symptoms are very non-specific leading to delay in diagnosis and may be confused with otolaryngologic benign diseases. We hereby present a case of NHL of buccal mucosa, with a history of slowly developing white and red patches in bilateral buccal mucosa and increasing trismus over a year. Biopsy and immunohistochemistry (IHC) lead to the final diagnosis of NHL. Other radiological investigations, including PET-CT was suggestive of isolated buccal mucosal involvement. In view of localised involvement, we treated him with single modality i.e. radiotherapy with complete remission post treatment.

Keywords: NHL, MALT, Buccal Mucosa, Involved-field Radiotherapy

Introduction

Lymphomas are malignant neoplasm of the lymphocyte cell lines, mainly classified as Hodgkin's and Non-Hodgkin's Lymphoma (NHL) based on a characteristic morphologic pattern, immunophenotypic pattern and distinctive chromosomal aberrations. NHL includes a spectrum of behavior. NHL of the mucosa-associated lymphoid tissue (MALT) are rare, represent only 0.2-0.3% of all NHL. Local growth is usual, whereas dissemination occurs late in course of the disease. Extra nodal presentation in NHL is seen in 20-30% of all with usual sites being stomach, bowel, tonsil.[1] Primary lymphomas of oral cavity are uncommon consisting of approximately 2% of all extra nodal lymphomas but isolated buccal mucosal involvement is very rare.[2,3] NHL are more likely to develop in immunosuppressed people or in elderly, especially over 6th decade of life. In some cases, they have been related with auto-immune based disease, such as Hashimoto's thyroiditis and Sjogren's syndrome. Correlation with Helicobacter pylori-induced gastritis has also been hypothesized. We hereby present a case of marginal zone lymphoma of bilateral buccal mucosa which is very rare presentation.

Case Report

A 49 years male with no medical co-morbidities, presented in surgical oncology OPD with complain of ulcer in right cheek and restricted mouth opening since 1 year, resistant to NSAIDs and antibiotic therapy. Personal history revealed addiction of tobacco and betel nut chewing, beedi smoking since past 20 years. On intraoral examination, mouth opening was 3 cm, bilateral buccal mucosa showed leukoplakic patches and fibrosis. Small erythematous, indurated area was present over right buccal mucosa which measured about 2.5 cm in longest dimension (antero-posteriorly). Lesion did not extend to upper or lower gingiva-buccal sulcus or other surroundings and no clinical evidence of lymphadenopathy. Clinical diagnosis which seemed possible in presence of non-infectious lesion and the rate of growth was a benign lesion. Laboratory study showed normal hematological counts and biochemical profile. Serology for human immunodeficiency virus (HIV) was negative. Biopsy from both side buccal mucosa was taken. Histopathology was suggestive of low grade NHL. Immunohistochemistry was suggestive of NHL, low grade B cell marginal zone type. With CD5, CD20, CD43, CD79a, BCL2 positivity, MIB1 10% and cytokeratin negative. CT scan of PNS and Neck was suggestive of heterogeneously enhancing soft tissue thickening involving anterior aspect of both buccal space, maximum thickness of 9 mm on right side and few subcentimetric nodes in bilateral level IB. Based on this report, an exhaustive systemic study including, bone marrow biopsy was performed which reported normocellular bone marrow uninvolved by disease infiltration. PET – CT was also performed which revealed absence of hypermetabolic lymphadenopathy on both sides of diaphragm and any other extra lymphatic site to suggest disease infiltration. Case was discussed in tumour board. In view of solitary lesion, it was concluded that this was a case of stage IE oral primary marginal zone lymphoma and patient was planned for involved field curative radiotherapy in our department. Patient was taken for simulation after preparing customised thermoplastic mask with extended neck position. On

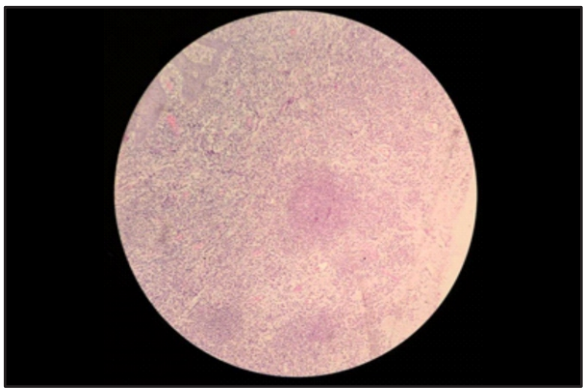

Figure 1: Histologic microphotograph of biopsy specimen

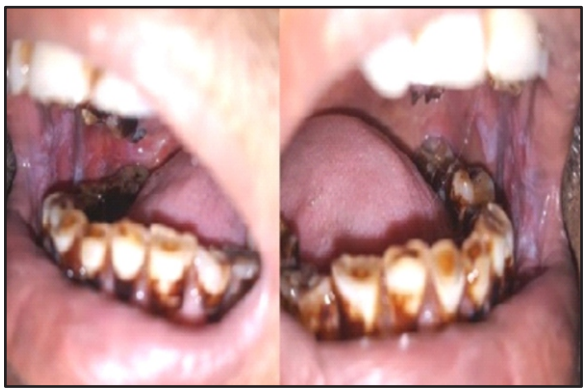

Figure 2: Clinical picture before treatment

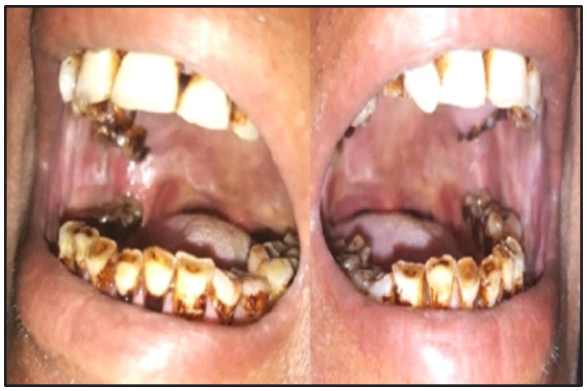

Figure 3: Clinical picture 3 months post-radiotherapy

X-ray simulator, radiotherapy portal was marked with upper border at infra-orbital margin (at the level of base skull) and lower border at the level of clavicle and laterally include 2/3rd of medial part of clavicle. 40 Gy in 20 fractions, 200cGy per fraction, 5 days a week for 4 weeks was delivered on linear accelerator with 6 MV photons with anterior-posterior and posterior-anterior fields. During treatment, patient developed RTOG grade 3 mucositis. Trismus increased, measuring 1.5 cm between the two incisors. After the treatment, patient was followed up. On 15th day post-RT follow up, patient had resolving mucositis. On 3rd month, patient had complete resolution of lesion, clinically and radiologically. Patches of leukoplakia also resolved. With continuous physiotherapy and mouth opening exercises, trismus also improved. A year after diagnosis, patient is disease free and doing well.

Discussion

NHL of MALT is characterized by the mucosal and glandular tissue localization. The case described here falls into the European–American classification of a low-grade B-cell lymphoma of MALT type, with intra-oral lesion.[4] Extragastric MALT lymphomas are very infrequent and little information exists on them. Added to this fact, when a lesion is observed in the buccal mucosa, other pathologies may seem more probable, further hindering correct diagnosis.[7] Oral cavity lymphoma most commonly presents with a persisting ulcer and other symptoms may include pain, foetor, paraesthesia, anaesthesia, or mucosal discolouration. Flow cytometry analysis distinguishes lymphomas from chronic inflammation through the detection of clonality based on surface of Ig light chain expression studies, which is restricted to either kappa or lambda in lymphomas, whereas inflammatory processes reveal a mixed expression of kappa and lambda light chains. One of the characteristics of NHL of MALT is their tendency to remain localized for long period in the originating mucosa, although an exhaustive systemic study should be made to exclude its presence in other tissues. Several factors are known to increase NHL risk including the Epstein-Barr virus and immune deficiency.[5, 6] the prognosis differs between HIV positive and HIV negative patients, and depends on clinical stage. After establishing the correct diagnosis, several aspects have to be considered prior to institution of therapy, as treatment options largely depend on pathological as well as clinical criteria. There is tendency for disease to remain localized for long time, local treatment is often indicated. They respond well to most treatments (surgery, radiotherapy and or chemotherapy), for which reason the least aggressive methods should be used. However local recurrence is frequent, including several years after first diagnosis, and long term follow up is necessary.

Conclusion

With this rare presentation, the possibility of lymphoma being a differential diagnosis for buccal mucosa lesions has to be kept in mind. An accurate clinical examination, a cytohistological and immunohistological diagnosis and flow cytometry have become fundamental steps to decide a proper therapeutic protocol. Treatment needs to be tailored according to the risk-benefit ratio for the patient. In our case, radiotherapy has proved to be an effective

treatment with preservation of function and better cosmesis. However long term follow-up and close observation is needed.

References

1. Zuccae, Roggeroe, Bertonif, Cavallif: Primary extranodal non-Hodgkin's lymphoma. Part 1: Gastrointestinal, cutaneous and genito urinary lymphomas. Ann Oncol 1997; 8: 727-737
2. El-Zimaity HM, Wotherspoon A, de Jong D: On behalf of the Houston MALT lymphoma Workshop. Interobserver variation in the histopathological assessment of malt/malt lymphoma: towards a Consensus. Blood Cells Mol Dis 2005; 34:6–16
3. Wolvius Eb, Van Der Valk P, Van Der Wal Je: Primary extranodal non-Hodgkin lymphoma of the oral cavity. Ananalysis of 34 case. Eur J Cancer B Oral Oncol 1994; 30: 121-125
4. Harris NL, Jaffe ES, Stein H et al: A revised European–American classification of lymphoid neoplasms: a proposal from the International lymphoma Study Group. Blood 1994; 84:361–392
5. Malaguarnera L, Cristaldi E, Malaguarnera M: The role of immunità in elderly cancer. Crit Rev Oncol Hematol 2010; 74: 40-60
6. Malaguarnera L, Ferito L, Di Mauro S: Immunosenescence and cancer, a review. Arch Gerontol Geriatr 2001; 32: 77-93
7. Avalda C, Bagan JV, Jimenez Y et al: Linfoma no-Hodgkin con manifestacion enforma de tume-faccion facial. Av Odontoestomatol 1997; 13:345–349

" Continuous improvement is better than delayed perfection. "

Mark Twain