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Gingival Mucosa-Associated Lymphoid Tissue (MALT) lymphoma developed around a mandibular extraosseous dental root canal overfilling: a case report

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Abstract:

Lymphomas are rare pathologies in the oral cavity, representing only 3.5% of malignant tumors. Their typical topography is Waldeyer's lymphatic ring and approximately 8% of all non-Hodgkin lymphomas are mucosa associated lymphoid tissue (MALT) lymphomas. The authors report a rare case of mandibular gingival MALT lymphoma which developed around an extraosseous dental root canal overfill. This atypical, case of lymphoma indicates that practitioners have to be vigilant and perform a biopsy every time they are confronted with a suspicious chronic lesion in the oral cavity.

Introduction:

Lymphoma are rare pathologies in the oral cavity, representing only 3.5% of malignant tumors [1]. Their typical topography in that area is-Waldeyer's lymphatic ring [2]. Approximately 8% of all non-Hodgkin lymphomas are mucosa associated lymphoid tissue (MALT) lymphomas, which were first described in 1983 by Isaacson and Wright [3, 4]. In the oral cavity, MALT lymphomas principally affect the salivary gland, tonsils and palate, but only occasionally the gingiva or oral mucosa [4]. We report here a rare case of gingival MALT lymphoma which developed around an extraosseous dental root canal overfill.

Case report:

A 66-year-old woman was referred to our department with a 1-year-history of mucosal swelling. The patient's significant medical history included renal surgery, appendicectomy, and varicose surgery. She had no allergies, and was not undergoing treatment of any sort. At physical examination, there was a bluish swelling in the vestibular mucosa, involving the 43 and 44 teeth apices (fig.1). There was no tooth mobility associated. The lesion measured about 1cm in diameter, was not mobile, but was slightly painful to the touch. No lymph nodes were palpated in the head and neck region. A mandibular cone beam computed tomography was performed and revealed an iatrogenic aberrant canal in tooth 44 with an extraosseous excess of root canal filling material in the vestibular mucosa, without bone destruction (Fig. 2). There was no general symptom, like fever, night sweats, or weight loss.

An intraoral excision was performed in one piece, under local anesthesia, and the sample was analyzed. The excision was complete. On microscopic examination (fig.3), an exogenous material is surrounded by an inflammatory reaction of giant resorptive cells. On the periphery, there was an inflammatory infiltrate. . Most of this infiltration was made consisted of small lymphocytes without obvious atypia, mixed with rare, larger activated lymphocytes. Focally, there were a few small follicles with slightly choked, germinal centers. There were also some fibrosis areas, from vessels to endothelial lining, sometimes turgescient, and some hemorrhagic suffusions. The immunohistochemical study showed that this infiltration was made of BCD20+ and TCD3+ but there seemed to be a slight predominance of the B elements. After application of anti BCL2 and anti-CD5, a marking of the T elements was observed. After application of anti-CD10 antibodies, anti-BCL6 and anti-CD23, small lymphoid follicles were identified. There was no marking for cycline D1. After application of Kappa light chain and Lambda light chain antibodies, a population of plasmocyte elements expressing in a fairly comparable number the Kappa light chains and Lambda light chains was observed. After application of the anti-proliferation marker antibody Ki67, marked nuclei in the germinal centres were identified. The possibility of a reactive lymphoid hyperplasia was evoked, however, a study in clonality B was performed with a high intensity clonal rearrangement of VH-JH

genes of BCR to confirm the diagnosis of MALT lymphoma.

The patient was referred to the hematology department for further management. There was no peripheral tumor syndrome and a full body CT-scan did not reveal any other suspicious lesions. A multidisciplinary team therefore decided to put into place a disease surveillance every 6 months.

Discussion:

Malignant lymphomas are a group of diseases resulting from the malignant proliferation of B, T or NK lymphoid cells at different stages of differentiation. This proliferation can occur mainly at the expense of a lymphoid organ (lymph nodes, spleen, thymus...) or another organ (stomach, skin, lung...). They therefore correspond to clonal pathologies developed at the expense of lymphoid tissue cells. The new WHO classification (2016) defines about 40 entities of non-Hodgkin's lymphoma [5]. Lymphomas represent 3.5% of the malignant diseases that can be found in the oral cavity. MALT lymphoma, or extranodal marginal zone lymphoma is an indolent B cell non-Hodgkin lymphoma linked with preexisting chronic inflammation [6]. It was first described by Isaacson and Wright in 1983 [3] and it was reclassified as "marginal zone B-cell lymphoma" in a 1994 Revised European American Lymphoma (REAL) classification [7]. It is a type of low-grade NHL, but it can evolve into high-grade diffuse large B cell lymphoma. It mainly affects the stomach. In the head and neck region, it will be found essentially in Waldeyer's ring. A MALT lymphoma arising from gingival mucosa is extremely rare and can therefore be easily confused with other types of soft tissue masses.

In this case, clinically and radiologically, there was no obvious sign of malignant proliferation like ulceration, skin lesion, lymphadenopathy, bone destruction or tooth displacements. There was only a small, bluish mucosal swelling that was slightly painful to the touch. So, we can easily understand that an important delay of diagnosis could be observed in clinical practice. It reveals the importance of biopsy and anatomopathological analysis. The fact that this lymphoma was probably caused by an extraosseous root canal overfilling, which can be a complication of endodontic therapy, must warn all dental practitioners to be aware of the possibility of a malignant process when patients present symptoms like pain or swelling in reaction to a foreign body. The causes of the disease are mostly related to persistent immune stimulation caused by chronic infection or inflammation, such as Hashimoto's thyroiditis and Sjogren's syndrome [8]. This patient didn't suffer from any variety of autoimmune diseases or chronic infection.

Conclusion:

A small swelling of the gingival mucosa due to a root canal overfill, even without aggressive growth patterns, should alert practitioners to the possibility of a malignant lesion. Practitioners have to be vigilant and perform a biopsy every time they are confronted with a suspicious chronic lesion.

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Captions:

Figure 1: Intraoral examination shows a bluish swelling on the right vestibular mucosa of the mandible between the canine and first premolar roots.

Figure 2: Cone-Beam computed tomography of the mandible, showing an iatrogenic aberrant canal in tooth 44 with a vestibular extraosseous excess of root canal filling material. Left: axial view. Right: coronal reconstruction.

Figure 3: The excisional biopsy involves a very limited nodule encapsulating a foreign body. It's surrounded by a dense lymphoid infiltrate, composed of small mature lymphocytes, without atypia.





