Review article

Unusual Oral Manifestations of autoimmune disorders

Saumya Khare

From, MDS (Oral medicine and radiology), PGMO at District Cancer and Palliative care unit, Ujjain (M.P), India

ABSTRACT

Autoimmune diseases (ADs) impact oral health, both directly and indirectly. Immune-related disorders of the oral cavity may occur as primary disease process, secondary to systemic disease or neoplasm, or as a reaction to medications and other agents. The entities represented within this group may vary significantly by severity, clinical presentation, microscopic presentation, and special testing results. Increasing evidence is emerging for a steady rise of autoimmune diseases in the last decades. The oral physician can therefore play a pivotal role in the detection and during the following multidisciplinary treatment. Precise and early diagnosis increases the efficiency and efficacy of the treatment strategy. Therefore, the goal of our manual is to present the most "uncommon" autoimmune diseases that may show the first oral clinical signs and symptoms which are a manifestation of the general clinical disease.

Keywords: Autoimmune disorders, Oral manifestations, Oral health, Oral physicians, Rheumatoid arthritis

Mouth is the mirror that can reflect the overall health of your body'. Autoimmune diseases are the result of specific immune responses directed against structures of the self. These are the conditions in which structural or functional damage is caused by the immunologically competent cells or antibodies against normal components of the body [1]. Oral manifestations of autoimmune disease are frequently the primary sign of autoimmune diseases. The oral physician can therefore play a pivotal role in the detection and during the following multidisciplinary treatment, precise and early diagnosis. These conditions are characterised by lesions of the oral mucosa often associated with extraoral manifestations that include skin, eyes, nasal and pharyngeal mucosa, and genitals. It can occur as a primary disease process, secondary to systemic disease or neoplasm or as a reaction to medications [2].

ADs are defined by their aetiology; the targeting of self-antigens by the host immune system. Auto-antigens are targeted by self-reactive T-cells or antibodies directed against self-termed auto-antibodies. The auto-antigen's target includes host cells, tissue or commensal microbiota.

Access this article online

Received – 27th July 2023

Initial Review – 2nd August 2023

Accepted – 4th August 2023

Quick Response Code

Self-reactive lymphocytes are ubiquitously generated; however, these are usually eliminated or regulated before they can elicit their effects. There are multiple mechanisms that regulate this process, collectively known as tolerance [3].

ADs can be initiated following infection and this has raised the theory of molecular mimicry; the antigens expressed by an infective pathogen resemble those of the host, resulting in cross reactivity and potentially autoimmune disease. Once an immune response is generated, it can manifest itself in one way or a variety of ways, after stimulation with antigen, B cells go on to synthesize antibodies which bind specifically to antigen. Antibody can perform a number of functions depending on its class [4]. In the following section, some of the uncommon oral manifestations of common autoimmune disorders will be discussed, which are not commonly considered for oral lesions and manifestations.

Oral manifestations of autoimmune disorders

(A) Rheumatoid Arthritis

Rheumatoid arthritis (RA) is a common systemic autoimmune disorder primarily involving the joints, but may also

Correspondence to: Dr. Saumya Khare, MDS (Oral Medicine and Radiology), PGMO at District Cancer and Palliative Care Unit, Ujjain, Madhya Pradesh, India. **Email:** saumyakhare777@gmail.com

have extraarticular manifestations, such as rheumatoid nodules, pulmonary involvement, or vasculitis [5].

Incidence, predilection, and genetics: RA has an incidence of 0.5% to 1.0. Family members are at a 3 to 5 times greater risk of developing the condition implicating genetic factors in the pathogenesis. The HLA system (particularly HLA-DRB1) remains the dominant influence, strongly implicating peptide (and self-peptide) binding as well as other genetic loci. Epigenetics contribute to pathogenesis, probably by integrating environmental (smoking and/ or infectious) agents and genetic effects [6].

Clinical Features: Temporomandibular joint (TM) abnormalities have been reported in 67.6% of RA patients. Myofacial pain was found in 64.8%, combined myofacial and TM joint pain in 18.5%, and joint involvement alone in 7.4% of patients. Radiographic evaluation of the TM joint manifests very few changes that can be considered unique to RA. A variety of other TM conditions, mainly degenerative joint disease, show similar changes. The radiographic abnormalities are morphologic changes in the condyle head, glenoid cavity, and articular eminence, with surface erosion noted early on affecting the anterior and medial surfaces of the condyle. Small cystlike areas presenting as punched out lesions on the anterior and superior surfaces of the condylar head beneath the fibrocartilage.

Osteophyte formation (during remission phases) beneath the lytic areas (not necessarily on the condyle surface itself), flattening of the anterosuperior aspect of the head of the condyle and posterior aspect of the articular eminence, sclerosis (either independently or with lytic changes), and bilateral condylysis in extreme cases. Other mandibular changes may include anterior positioning of the condyle in the fossa, diminished the vertical height of the ramus with increased gonial angle as a result of a diminished vertical height of the condyle, and in rare cases radiologic evidence of ankyloses. As malocclusion progresses, patients may develop an anterior open bite clinically (Figures 1, 2).

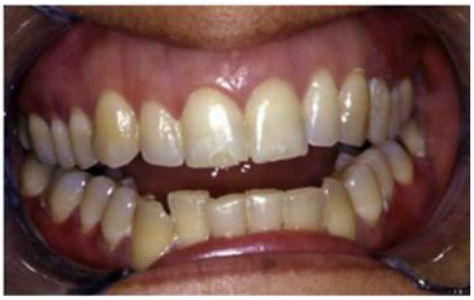

Figure 1: Malocclusion and progressively worsening anterior open bite

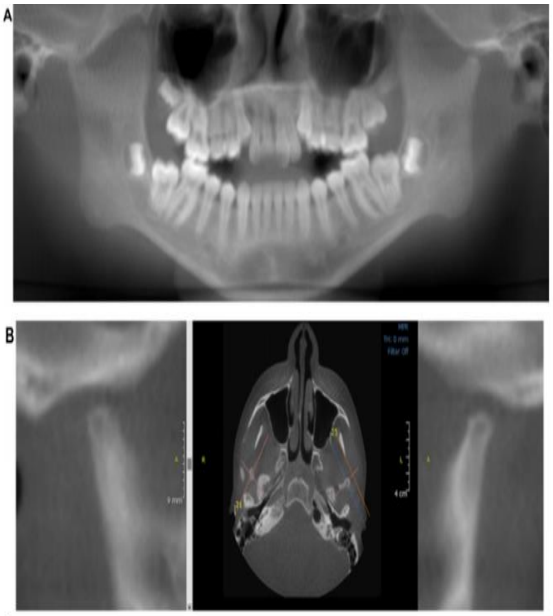

Figure 2: (A) Degenerative changes in temoporom andibular joint, A - Orthopantomogram, B - cone beam computed tomography

Treatment Considerations: Medications used to treat pain may be associated with oral ulcerations (ibuprofen, rofecoxib, and naproxen) or lichenoid mucosal changes (naproxin, oxicam) or erythematous papular lesions (acetaminophen). Certain biologics used to slow progression of joint damage or induce remission have been associated with lichenoid hypersensitivity reactions in the oral cavity as well (infliximab, obinutuzumab, adalimumab, etanercept, and abatacept [5].

(B) Linear Iga Disease

Linear IgA disease (LAD), also known as linear IgA bullous dermatosis, is an autoimmune subepidermal blistering disease characterized by linear deposition of IgA at the epidermal basement membrane. Linear IgA disease is a rare disease, and Linear IgA disease is the most common autoimmune bullous disorder of childhood and usually appears in children under the age of 5, while the adult-onset linear IgA disease generally appears after the age of 60 [7].

Etiopathogenesis: LAD is a subepithelial disease characterized by the deposition of IgA rather than IgG in the basement membrane. The clinical manifestations may resemble either dermatitis herpetiformis or pemphigoid. The cause of the majority of cases is unknown, but some reported cases have been drug induced or associated with systemic diseases, including hematologic malignancies, or connective tissue diseases, such as dermatomyositis. As in MMP, the antigens associated with LAD are heterogeneous and may be found in either the lamina lucida or lamina densa portions of the basement membrane [8].

Clinical Features: Linear IgA disease shows a heterogeneous clinical presentation involving the skin and mucous membrane. Characteristically, lesions tend to appear in a "cluster of jewels" pattern, where new lesions arise at the periphery of old ones. In adults, lesions predominantly affect the trunk, extensor surfaces and face. Mucous membrane involvement can be seen in up to 80% of the patients. Oral lesions appear as multiple, painful ulcers that follow the rupture of blisters. They may sometimes exhibit in a form of erosive cheilitis or desquamative gingivitis (Figure 3a).

Diagnostic Criteria [9]

Table 1: Diagnostic criteria of LAD

Diagnostic criteria	Findings
Oral lesions	Erosions/ulcerations resulting from blisters
Skin lesions	Erythema, blisters, erosions, crusts
Laboratory investigations	
Histology	Subepithelial cleavage with inflammatory infiltrates dominated by neutrophils
Direct IF microscopy	Linear IgA deposition at the dermo-epidermal junction
Indirect IF microscopy	Binding of IgA autoant-ibodies to the epidermal side of salt-split skin
Skin ELISA/Immunoblotting	IgA against the shed ectodomain of BP 180 (LAD1)

Treatment: Treatment choice depends on the severity of the disease. Most patients with linear IgA disease do well with tablets such as dapsone. Other medications such as sulphonamides, steroids, ciclosporin, mycophenolate mofetil and colchicine may be used. Oral antibiotics such as tetracyclines or erythromycin have also been used [10].

(C) Systemic Sclerosis

Scleroderma is a connective tissue disorder characterized by fibrosis and excessive deposition of type I and III collagen within the skin, blood vessels and internal organs. It is also known as "Hidebound Disease" since "hidebound skin" is the key feature of this disease. The term Scleroderma is derived from a Greek word "skleros" which means hard and derma meaning skin. The disease shows a female predilection with females being affected 3-4 times more than males. It mostly affects people from 3rd to 5th decade of life [11].

Etiopathogenesis: Scleroderma is a multisystem condition of complex pathogenesis. Vascular damage, activation of immune complexes such as stimulated interleukins, upregulated endothelin, MMP-2(matrix metalloproteinase-2), and interferons with excessive synthesis of extracellular matrix are known to cause the development of this condition [11]. The damage to the vascular system and autoimmunity that plays a very significant role in the disease. During the initial stage of the disease, the T lymphocytes infiltrate the skin causing an abnormal activation of the fibroblasts and leading to excessive collagen deposition. Moreover, proliferation of intima takes place resulting in narrowing of artery and arteriole [12].

Clinical Manifestations

- Depending on the extent of involvement, the disease can be classified as morphea or circumscribed, generalized or diffuse, acrosclerosis (a condition with scleroderma of extremities and Raynaud's disease).
- Another variant of this disease is CREST Syndrome, which is an acronym for Calcinosis cutis, Raynaud's phenomenon, esophageal dysmotility with dysphagia, Sclerodactyly, and Telangiectases [11].
- Morphea is characterized by localized thickening of the skin and starts as violaceous or purplish-brown oval skin patches that enlarge become indurated and eventually lose hair and the ability to sweat.
- Linear scleroderma is a condition which can run through the entire length of an extremity as a thin band of sclerosis involving underlying muscle, bones, and joints. When there is involvement of head and face, it is called as en coup de sabre and may result in facial hemiatrophy.
- Specifically, one of the most frequently experienced oral manifestations of SSc is microstomia or difficulty in opening the mouth as a result of sclerosis of the perioral tissues
- Many patients also experience xerostomia and loss of mobility to the tongue, which may result in difficulty swallowing, accelerated dental decay, and increased predisposition to low-grade erythematous oral candidiasis.
- Orofacial tissues are often affected, thus presenting with characteristic features such as thin and taut facial skin due to subcutaneous collagen deposition which leads to a "mask-like" or an "expressionless" or "Mona-lisa" facies [13].
- Hypopigmented/hyperpigmented areas of the skin are also appreciated in patients with scleroderma as a result of the skin lesions. These lesions initially start as indurated areas of the skin with hair loss and sweat gland

dysfunction. As the disease progresses, these lesions "burn out" giving areas of hypopigmentation or hyperpigmentation (Figure 3b).

- Another characteristic feature of scleroderma is "purse string-like appearance" due to the circumoral fibrosis resulting in characteristic furrows radiating from the mouth. Further, intraoral fibrosis leads to microstomia.
- Nutritional deficiencies can lead to atrophy of filiform papillae, which in turn lead to depapillation of the tongue (Figure 3c).
- Initially edema causes swelling of digits which progresses to fibrosis giving it a "claw like" deformity (Figure 3d).
- Loss of expression lines of the facies leading to a mask-like an appearance and thinned lips is yet another complication causing a "purse-string" appearance to the mouth.
- Pseudoankylosis (fixation of a joint) may also develop owing to fibrosis of the soft tissues around the TMJ.
- Fibrosis of the muscles of mastication at the level of attachment of masseter which is at the lowest part of the lateral surface, middle and upper part of the ramus; temporalis at anterior border of ramus; medial pterygoid at medial surface of angle and mylohyoid groove often lead to a characteristic and pathognomonic appearance of the ramus, which is referred to "Tail of the Whale" appearance (Figure 4).
- Other findings include effacement of the lingual papillae, pallor with blanching of the mucous membranes, and fibrosis of the buccal mucosa with loss of normal elasticity.
- Orthopantomogram shows generalized widening of periodontal ligament space. It could be due to increase in the collagen synthesis in the periodontal ligament or due to the involvement of the masticatory muscle, which becomes bulky, leading to an increased occlusal load, and primary trauma from occlusion [14].

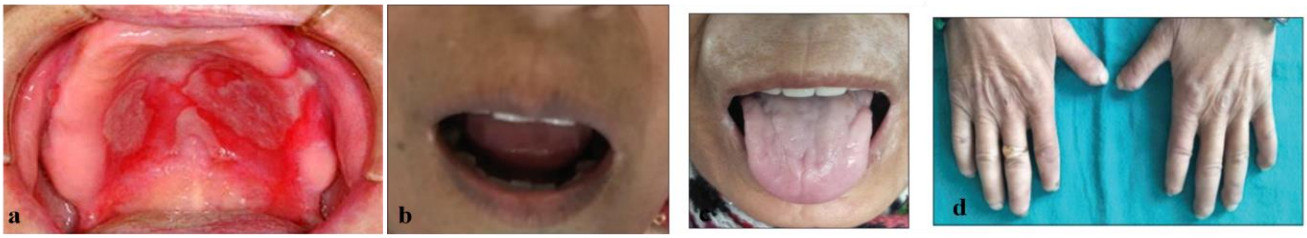

Figure 3: (a) Erosions in the palate in linear IgA disease; Clinicl manifestations of systemic sclerosis (b) microstomia; (c) Depapillation on dorsum surface of tongue; (d) claw like digits

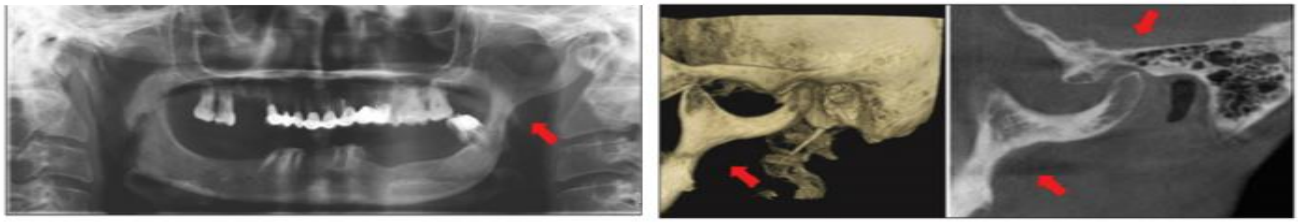

Figure 4: Tail of whale appearance

Treatment Considerations

- Treatment depends on the extent and severity of skin and organ involvement. Early diagnosis and treatment are advised.
- Calcium channel blockers are prescribed for moderate to severe Raynaud's phenomenon, and d-penicillamine is used to control skin thickening and decrease visceralinvolvement. The latter drug interferes with collagen crosslinking and is an immunosuppressive agent. Cyclophosphamide is used to treat early lung disease with alveolitis.
- Epoprostenal, treprostenol, bosentan, and inhaled iloprost have been shown to improve pulmonary arterial hypertension, whereas angiotensin inhibitors have greatly improved patient outcomes for those with scleroderma renal crisis.
- Mouth opening exercises, facial grimacing, use of an increased number of tongue blades between posterior teeth to stretch facial tissues probably is the best possible solution for reduced mouth opening.

(D) Pernicious Anemia

Megaloblastic or pernicious anemia is an autoimmune disease resulting from autoantibodies directed against intrinsic factor (a substance needed to absorb vitamin B12 from the gastrointestinal tract) and gastric parietal cells. This condition prevents the normal absorption of vitamin B12, thereby resulting in vitamin B12 deficiency. Vitamin B12 is necessary for the formation of RBCs. Deficiency in production of intrinsic factor may result from chronic gastritis or surgical removal of the stomach [15].

Clinical Manifestations

1. Hematologic :Megaloblastic (macrocytic) anemia Pancytopenia (leukopenia, thrombocytopenia)
2. Neurologic: Paresthesias, tingling and numbness of hands and feet Peripheral neuropathy ,Combined systems disease (demyelination of dorsal columns and corticospinal tract) with uncoordination and muscle weakness ,Impaired sense of smell ,Syncope
3. Psychiatric: Fatigue Irritability, personality changes ,Mild memory impairment, dementia ,Depression Psychosis
4. Cardiovascular :Possible increased risk of myocardial infarction and stroke

Oral Manifestations

1. Beefy red tongue, which appears smooth & glossy with glossopyrosis, glossitis and glossodynia (Figure 5a).
2. Hunter's glossitis or moeller's glossitis similar to "Bald tongue of sandwith"
3. Burning sensation in the tongue, lips, buccal mucosa, and other mucosal sites
4. The tongue and mucosa may be smooth or patchy areas of erythema
5. Dysphagia and taste alterations
6. Candidiasis can be aggravated or precipitated by anaemia
7. Aphthous stomatitis is occasionally the presenting feature
8. Pernicious anaemia should be considered when ulceration starts in middle age or later [16].

Diagnosis: Diagnosis of vitamin B12 deficiency is typically based on measurement of serum vitamin B12 levels; however, about 50% of patients with subclinical disease have normal B12 levels. Measurement of serum methylmalonic acid and homocysteine levels, which are increased early in vitamin B12 deficiency. Schilling test (which measures cyanoco-balamin absorption by increasing urine radioactivity after an oral dose of radioactive cyanocobalamin)

Schilling test for vitamin B12 deficiency-

1. Radiolabelled vitamin B12 (small dose) given orally
2. Unlabelled vitamin B12 (large dose) given i.m. 2h later
3. Collect urine over 24h (or whole-body counting)

- Normal: excrete more than 15% of radiolabelled B12 in 24 hours
- B12 deficiency: excrete less than 15% of radiolabelled B12 in 24 hours

4. Repeat with added intrinsic factor

- Pernicious anaemia: excretion of B12 increases to normal
- Ileal disease: excretion of B12 remains low

Treatment

- Weekly intramuscular injections of 1,000 µg of vitamin B12 for the initial 4 to 6 weeks, followed by 1,000 µg per week indefinitely.
- Supplementation with oral vitamin B12 is a safe and effective treatment for the B12 deficiency state.
- 2,000 µg doses of oral vitamin B12 daily and 1,000 µg doses initially daily and thereafter weekly and then monthly may be as effective as intramuscular administration in obtaining short-term hematologic and neurologic responses in vitamin B12–deficient patients
- Even when intrinsic factor is not present to aid in the absorption of vitamin B12 as in pernicious anemia or in other diseases that affect the usual absorption sites in the terminal ileum, oral therapy remains effective [8].

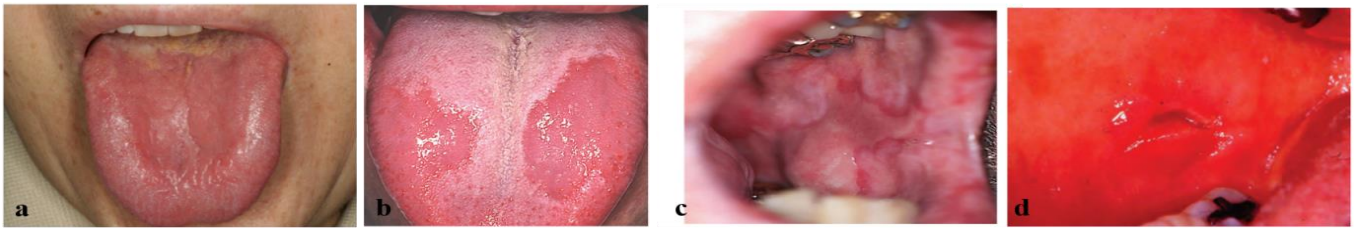

Figure 5: (a) Erythema and depapillation of tongue in pernicious anemia; lesion on the dorsum of the tongue in psoriasis; (c) oral GVHD- erythematous area, lichenoid reaction and atrophy on the buccal mucosa; (d) Ulcer on buccal mucosa secondary to crohn's disease

(E) Autoimmune Hemolytic Anemia (AIHA)

Autoimmune Hemolytic Anemia (AIHA) is characterized by the presence of autoantibodies directed to antigens on the individuals own red cell membrane, and by evidence of decreased red cell survival mediated by the red cell autoantibody. AIHA was the first autoimmune disorder in which an autoantibody was clearly shown to be involved in its pathogenesis. AIHA is most often idiopathic.

Oral Manifestations: Oral manifestations include deposition of blood pigment in the enamel and dentin of the

developing teeth, giving them a green, brown or blue hue. The stain is intrinsic and does not involve teeth or portions of teeth developing after cessation of hemolysis [17].

Immune Thrombocytopenic Purpura (ITP): Immune Thrombocytopenic Purpura (ITP) is an autoimmune disorder characterized by a low platelet count and mucocutaneous bleeding. ITP is classified as primary and secondary and as acute and chronic. Adult-onset and childhood-onset immune thrombocytopenic purpura are strikingly different. Affected children in childhoodonset ITP are young and previously healthy and they typically present with the sudden onset of petechiae or purpura a few days or weeks after an infectious illness. In more than 70 percent of children, the illness resolves within six months, irrespective of whether they receive therapy. By contrast, immune thrombocytopenic purpura in adults is generally chronic, the onset is often insidious, and approximately twice as many women as men are affected.

Oral Manifestations: Oral manifestations are gingival bleeding; petechiae, mucocutaneous bleeding and haemorrhage into tissues. Petechiae occur in the oral mucosa more commonly on the palate and appear as numerous tiny, grouped clusters of reddish spots only a mm or less in diameter. Oral surgical procedures mainly extractions are contraindicated because of excessive bleeding and should be carried out only after the deficiency is compensated [18].

Polymyositis and Dermatomyositis: Polymyositis and dermatomyositis are rare immunologically mediated inflammatory myopathies. Polymyositis, if associated with skin lesions, is known as dermatomyositis. The conditions usually develop between the fifth and sixth decades, women being affected twice as often as men

Clinical Features: Pain and weakness, usually of the pelvic girdle and proximal limb muscles, especially the legs. Eventually, in severe cases, speaking and swallowing may become difficult and weakness. Ultimately, atrophy, contracture and calcinosis of muscles can develop. Other complications may include myocarditis and fibrosing alveolitis. Dermatomyositis is characterized by a dusky and violaceous (Gottron, or heliotrope) rash with a butterfly distributionacross the bridge of the nose and adjacent cheeks. This may spread to the upper part of the body or hands. Small ulcerated skin lesions may develop over bony prominences. In a minority, Raynaud phenomenon is associated and there can be features of other connective tissue diseases, particularly scleroderma, myasthenia gravis or Hashimoto thyroiditis, especially in those with dermatomyositis.

Oral Manifestations: Oral lesions in polymyositis/ dermatomyositis may present in 10–20%, are variable in character and mainly comprise dark or purplish mucosal erythema and oedema. Small whitish patches occasionally with shallow ulceration may also develop and bear some resemblance to lichen planus or lupus erythematosus. Treatment is with immunesup-pressant's [19].

(F) Wegener Granulomatosis

Wegener granulomatosis (WG) is an uncommon autoimmune inflammatory disease, potentially fatal disease characterized by vasculitis associated with giant cells, necrotizing granulomatous lesions in the respiratory tract and glomerulonephritis. A limited form of the disease is confined primarily to the lung or oral cavity. Wegener granulomatosis comprises the triad of nasopharyngeal inflammation, pulmonary cavitation and renal disease.

Oral Manifestations: Wegener granulomatosis can occasionally produce a characteristic and apparently pathognomonic form of gingivitis, where the gingivae are swollen, red and have a strawberry-like texture, as its initial manifestation,. Mucosal ulceration or delayed healing of extraction sockets are complications of the later stages of disease, particularly if renal failure develops. Management is by Corticosteroids and cyclophosphamide. Trimethoprim -sulfamethoxazole may be effective used alone in disease restricted to the upper aerodigestive tract [19].

(G) Sarcoidosis

Sarcoidosis is a systemic disease characterized by a multisystem noncaseating granulomatous inflammation primarily in the lung, heart, brain, eyes, and skin. Within the head and neck, salivary gland involvement is the most common manifestation and infrequently, intraoral soft tissue lesions may also be encountered.

Clinical Features

- Symptoms include nonspecific complaints, ranging from fatigue and depression, "asthma symptoms" (wheezing, persistent cough), to arthritis and muscle pain or weakness. Clinically, patients may present with lymphadenopathy, erythema nodosum, and localized skin or eye lesions. Xerostomic, unilateral or bilateral parotid swelling.
- Most cases of oral sarcoidosis present as single or multiple nodules or ulceration(s) of the longue, lips, palate, and gingiva; asymptomatic swelling of the involved mucosa; or mobility of the teeth owing to rapid alveolar bone loss.

Treatment

- Systemic croticosteroids
- Cytokine modulators
- TNF-alpha antagonists [5].

(H) Psoriasis

Psoriasis is a chronic inflammatory skin disease with a strong genetic basis, characterized by complex alterations in epidermal growth and differentiation and multiple biochemical, immunologic and vascular abnormalities.

Oral Manifestations: Oral manifestations are rare in psoriasis. Oral psoriasis involves 2% of psoriatic patients and usually it is observed with the onset of cutaneous lesions and progresses with them [20].Oral lesions of psoriasis are commonly seen on lips, buccal mucosa, palate, gingiva and floor of the mouth (Figure 5b).

Four types of oral lesions of psoriasis are described- (1) well defined, gray to yellowish white, tiny, round to oval lesions; (2) lacy, circinate, white elevated lesions on the oral mucosa and the tongue paralleing skin lesions; (3) fiery red erythema of the oral mucosa including the tongue seen primarily in the acute form of psoriasis; and (4) a geographic tongue that occurs more frequently among patients with psoriasis than without. Patterns range from raised, white, scaling lesions predominantly on the palate or buccal mucosa to well-demarcated, flattened, erythematous lesions with a slightly raised, white, annular or serpiginous border. Oral lesions may disappear quickly or they may undergo exacerbations or remissions concomitantly with skin lesions.

Diagnosis of oral psoriasis is best made when the clinical course of the oral lesion parallels that of the skin disease and is supported by microscopic findings such as parakeratosis, acanthosis, elongated rete ridges, thinning of the suprapapillary plate and migration of polymerphonuclear leukocytes through the epithelium forming intraepithelial microabscesses (Munro abscesses) [2].

(I) Graft-Versus-Host Disease

Graft-versus-host disease (GVHD) is a systemic autoimmune and alloimmune disease that is one of the most common and troublesome adverse events of allogeneic hematopoietic stem cell transplant. After transplantation, it may happen that, due to various risk factors, donor T-cells attack antigens on the recipient cells. The resulting immune reaction leads to impairment of various tissues. Perhaps autoimmunity is also involved. Based on clinical presentation, two categories of the disease are known: acute and chronic.

Oral Manifestations: Prevalent locations in the mouth are the buccal mucosa and the tongue. GVHD consists of three completely separate diseases: mucosal lesions, salivary gland dysfunction, and mouth sclerosis. First of all, mucosal changes can be described as erythema, lichenoid lesions, atrophy, hyperkeratosis, ulcers, mucoceles, pseudomembrane, edema, and cellulitis (Figure 5c). The disease subsequently often affects the salivary glands, with consequently similar complications as mentioned in SS. Finally, sclerotic changes can be seen, followed not only by limited mouth opening and tongue movement, but also dysphagia. Treatment is with corticosteroids, calcineurin inhibitors, and analgesics [21].

(J) Crohn's Disease

- Inflammatory bowel disease is a chronic inflammatory condition that consists of two main subsets; namely, Crohn's disease (CD) and ulcerative colitis [22]. It can be manifested in any segment of the digestive tract from the oral cavity to the anus, as well as almost anywhere outside it.
- Oral changes can precede intestinal involvement or occur simultaneously, but they generally appear after intestinal involvement.
- Patients can develop changes specific to CD; for example, painless swollen lips, fissuring of the tongue and lips, cobblestone appearance of hyperplastic mucosa, deep linear ulcers mainly in the buccal vestibule, mucogingivitis, and, due to fibrosis, mucosal tags, nodules, or polyps. Xerostomia often occurs secondary to the involvement of minor salivary glands, or chronic inflammation may cause obstruction of the salivary ducts with subsequent consequences (Figure 5d).

Treatment

Aminosalicylates (5-ASA), corticosteroids, immunomodulators, including methotrexate and azathioprine, antibiotics, and several newer biologic therapies including anti–TNF-alpha therapies [23].

(K) Diabetes

Chronic hyperglycaemia of diabetes results in damage to the cardiovascular system, kidneys, eyes, nerves, and patients are often immunocompromised [24]. Diabetes has conclusively been shown to be a risk factor for periodontal disease. Elevated HbA1c is associated with greater

prevalence of disease and periodontal destruction, and glycaemic control appears to be the main predictor of attachment loss and subsequent tooth loss. Periodontal disease negatively impacts glycaemic control and the development of nephropathy in diabetic patients [25]. The resulting immunocompromisation from chronic hyperglycaemia predisposes diabetics to fungal infections, delayed healing after surgery and acute dental infection that may develop quicker and take longer to resolve [3].

(L) Myasthenia Gravis

Myasthenia gravis (MG) is an acquired autoimmune disorder characterized clinically by weakness of skeletal muscles and fatigability on exertion.

Clinical Features: Myasthenia gravis occurs chiefly in adults in the middle-age group, with a predilection for women, and is characterized by a rapidly developing weakness in voluntary muscles following even minor activity. Muscles of mastication and facial expression are involved by this disease, frequently before any other muscle group. The patient's chief complaints may be difficulty in mastication and in deglutition, and dropping of the jaw. Speech is often slow and slurred. Disturbances in taste sensation occur in some patients. Diplopia and ptosis, along with dropping of the face, lend a sorrowful appearance to the patient. The neck muscles may be so weak that the head cannot be held up without support. Death frequently occurs from respiratory failure. Two forms of the disease are now recognized: one, a steadily progressive type; the other, a remitting, relapsing type.

Treatment: Physostigmine, an anticholinesterase, administered intramuscularly, improves the strength of the affected muscles [17].

CONCLUSION

ADs can directly and indirectly affect the oral cavity and have a variety of clinical presentations. A quick and proper diagnosis is necessary for adequate treatment, which may take place in a multi-disciplinary setting. Autoantibodies against adhesion structures result in a wide range of autoimmune diseases affecting the skin and mucosal surfaces. Oral mucosal lesions occur in several of these conditions and often can be the first clinical sign of the autoimmune disease. General practitioners and oral physicians play an important role in early diagnosis of autoimmune skin diseases which may significantly influence disease progression and outcome. Oral signs and symptoms may accompany numerous autoimmune diseases. The manifestations are very similar, and yet varied, especially if clinical changes in the entire body are taken into account.

The complexities involved in treating autoimmune diseases are the task of avoiding auto-reactivity while maintaining immune competence. Thus, treatment usually concentrates on alleviating symptoms rather than treating underlying cause. The detailed underst-anding of immunological tolerance, its regulatory network, combination of new technologies and expanded genetic information may increase the awareness to make it possible to control degree of autoreactivity in the immune system.

REFERENCES

1. Vinyasa S, Bahirwani S, V J Raja. Current Concepts in Autoimmune Diseases Affecting Orofacial Region. Inter. J of Health Sciences & Research 2014;4(11):234.
2. Sridevi P, Munisekhar MS, Harika CH, et al. Oral Manifestations of Autoimmune Diseases. Inter. J of Oral & Maxillofacial Pathology. 2012;3(4):27-33.
3. Reilly RJR, Johnston W, Culshaw S. Autoimmunity and the Oral Cavity. Current Oral Health Report. 2019;6:1–8.
4. Cusick MF, Libbey JE, Fujinami RS. Molecular mimicry as a mechanism of autoimmune disease. Clin. Rev Allergy Immunol. 2012;42(1):102–11.
5. Sankar V, Noujeim M. Oral Manifestations of Autoimmune and Connective Tissue Disorders. Atlas Oral Maxillofacial Surg Clin N Am. 25 ;(2017) :113–126.
6. Smolen JS, Aletaha D, McInnes IB. Rheumatoid arthritis. Lancet. 2016;388(10055):2023e38.
7. Bertram F, Bröcker E-B, Zillikens D, et al. Prospective analysis of the incidence of autoimmune bullous disorders in Lower Franconia, Germany. J Dtsch Dermatol Ges 2009; 7: 434–40.
8. Greenberg MS, Glick M. Burkets oral medicine diagnosis and Treatment, 10th ed. Hamilton: BC Decker Inc; 2003. p. 261.
9. Fortuna G, Marinkovich MP. Linear immunoglobulin a bullous dermatosis. Clin. Dermatol. 2012;30:38–50.
10. Mustafa MB, Porter SR, Smoller BR, et al. Oral mucosal manifestations of autoimmune skin diseases. Autoimmunity Reviews. ELSEVIER. 2015: 930–95.
11. Sharma ML, Mehrotra G, Sharma K, et al. Tail of the whale appearance: A pathognomonic feature of scleroderma. J Indian Acad Oral Med Radiol. 2020;32:55-9.
12. Pandey A, Pandey M, Pandey VP, et al. Oral manifestations of autoimmune connective tissue diseases. Indian J Rheumatol. 2018;13:264-72.
13. Anbiaee N, Tafakhori Z. Early diagnosis of progressive systemic sclerosis (scleroderma) from a panoramic view: Report of three cases. Dentomaxillofac Radiol. 2011; 40: 457-62.
14. Pandey A, Pandey M, Pandey VP, et al. Oral manifestations of autoimmune connective tissue diseases. Indian J Rheumatol. 2018;13:264-72.
15. Shipton MJ, Thachil J. Vitamin B12 deficiency - A 21st century perspective. Clin Med. 2015;15:145–50.

16. Alekhya K et al. Oral Manifestations of Vitamin B12 (Cobalamin) Deficiency: A Review. Inter. Healthcare Research J. 2019;3(1):9-15.
17. Shafer's. Text book of Oral Pathology. 5th Ed. New Delhi; Reed Elsevier India Private Ltd: 2006. 915-1147.
18. Douglas B. Cines, Victor S. Blanchette. Immune thrombo-cytopenic purpura. N Engl J Med. 2002;346(13):995-1008.
19. Scully C. Medical problem in dentistry.6-ed. london: Churchill Livingstone Elsevier. 2011.
20. Biase DA, Guerra F, Polimeni A, et al. Psoriasis of the dorsal surface of the tongue. Minerva Stomatol. 2005;54(9):525-9.
21. Margaix-Munoz M, Bagan JV, Jimenez Y, et al. Graft-versus-host disease affecting oral cavity. A review. J Clin Exp Dent. 2015;7:138–45.
22. Mays JW, Sarmadi M. Oral Manifestations of Systemic Autoi-mmune and Inflammatory Diseases: Diagnosis and Clinical Management. J Evid Base Dent Pract. 2012;1: 265-282.
23. Mahvic-Urek M, Tomac-Stojmenovic M, Mijandrusic-Sincic B. Oral pathology in inflammatory bowel disease. World J Gastroenterol. 2016;22:5655–67.
24. Acharjee S, Ghosh B, Al-Dhubiab BE, et al. Understanding type 1 diabetes: etiology and models. Can J Diabetes. 2013; 37 (4):269–76.
25. Liu Y, Bie R, Iwasaki LR, et al. Prevalence differentiations of periodontitis by diabetic status among US adults. J Diabetes. 2018;10(11):896–8.

How to cite this article: Khare S, Unusual Oral Manifestations of autoimmune disorders. J Orofac Res. 2023; 12(2) 13-21.

Funding: None *Conflict of Interest: None Stated*