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KEY WORDS: Systemic Lupus erythematosus (SLE), oral corticosteroids (OCS), Rheumatoid arthritis (RA), Diabetes mellitus (DM), Lichen planus (LP) RHUPUS SYNDROME, Antinuclear antibody(ANA), Numerical rating scale (NRS), Discoid lupus erythematosus(DLE), Periodic acid–Schiff (PAS).

RHUPUS SYNDROME AN OVERLAP

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ABSTRACT

Our body protects itself from foreign substances like a soldier by its excellent immune mechanism[1]. Sometimes, this mechanism goes wrong and it attacks its own tissues. These are autoimmune disorders. Some examples are Systemic Lupus erythematosus (SLE), Rheumatoid arthritis (RA), Diabetes mellitus (DM), Lichen planus (LP), etc. Now a days because of new advancements in immunology, a concept of overlap syndrome which has overlap of 2or 3 autoimmune disorders have come into picture. We have come across a case of overlap syndrome of SLE and RA (RHUPUS SYNDROME) [2,3,4] and we treated oral lesions well which were associated with this disorder. In this article, we are presenting a case report of 52 yr old female with a history of RA since 10 yrs. The through clinical, biochemical and histopathological investigations revealed not only RA but also SLE associated with oral ulcerations. The oral ulcerations are effectively managed by topical steroid, methotrexate, antifungal therapy; supportive therapy along with modification of oral corticosteroids (OCS) which has given very good prognosis and same is presented in this article.

Case report:-

A 52-year-old female patient reported with a chief complaint of sore ulcers in left and right cheek regions, tongue, and palate associated with severe burning sensation of mouth. History of painful small ulcers initially started in left and right cheek region inside the mouth 4 months back. Later, she developed small ulcers on tongue and palate since 3 months. There is history of severe burning sensation since 1 month. Burning sensation aggravates by contact of any food.

On past medical history, she is treated for Rheumatoid arthritis since 10 yrs and she is under medication Tab Prednisolone (Omnacortil) 7.5 mg to 10 mg twice daily based on severity of presenting signs and symptoms along with Tab Folic acid 5mg (FOLVIT). She was also given Tab Methotrexate 10mg (Mexate) once a week since 1 yr .There is history of Hypertension since 10 yrs under medication Tab Carlo 10 mg (Carvedilol). She also gives history of Diabetes since 2 yrs under medication Glychek M (Gliclazide-60mg, Metformin-500mg) twice daily. Her medical reports revealed history of hypothyroidism, pulse therapy , anaemia,sicca syndrome with slight loss of vision and interstitial lung disease .

Patient came along with the following blood investigations and they are as follows;- Complete blood picture suggestive of anemia, hemoglobin level of 10.4g/dL ,Serum creatinine level -0.8mg/dl (Normal reference range- 0.6-1.2mg/dl); RBS-102mg/dl (Normal reference range- 70-160mg/dl); Antinuclear antibody (ANA) profile suggestive a marked rise with levels- **13.710** (<1.0 – negative,>1.0 positive).

On intraoral examination, on right buccal mucosa, there are diffuse erosive lesion of size 1x2 cm interspersed with white plaque extending antero posteriorly on mucosa opposite to right upper 1st molar to retromolar trigone[figure 1]. On left buccal mucosa, diffuse erosive lesions present extending antero posteriorly on mucosa opposite to left upper 1st molar to retromolar trigone of size 1x1.5cm [figure 2]. Multiple discoid shaped ulcers with well demarcated erythematous margin each of size 1x1 cm present on hard palate [figure 3].Numerical rating scale (NRS) for burning sensation was 10/10. These coin or discoid lesions resembled discoid lupus erythematosus(DLE) lesions on skin.

Provisional diagnosis was given as Overlap lesions of overlap syndrome of SLE and RA.

Incisional biopsy was advised and performed under local anesthesia. The specimen was subjected to histopathological examination. The biopsy report revealed the following information on various magnifications.

4X –LOW POWER:-

The H & E stained soft tissue shows ulcerated parakeratotic stratified squamous epithelium of varied thickness. [Figure 4]

Periodic acid Schiff (PAS) stain shows discontinuity in epithelium [figure 5]

40X HIGH POWER IMAGE:-

Evidence of vacuolar basal cell degeneration, focal areas of prominent eosinophilic zone at epithelial connective tissue interface. Juxtaepithelium showed extensive edema; diffuse inflammatory cell infiltrate- lymphocytes, plasma cells, macrophages. Area of ulceration showed neutrophilic infiltrate. [Figure 6]

Immunofluorosence was negative for immunoglobulin and complement .

Final diagnosis was given as oral lesions due to overlap syndrome associated with SLE and RA .

Treatment plan advised patient was:-

1) Topical Triamcinolone acetonide 0.1% thrice daily for 15 days.
2) Topical Clotrimazole(CANDID MOUTH PAINT) four times daily for 1 week
3) Tablet Prednisolone 10mg morning and 5 mg in the evening after food (OMNACORTIL) for 2weeks.
4) Tablet Fluconazole (Forcan) 150 mg once daily night for 3 days, Followed by weekly once for 6 weeks
5) Antioxidants once daily for 15 days.

Patient was recalled once in 15 days. On second visit there is reduction in size of lesion and reduced burning sensation [figure 7, 8, 9]. NRS for pain was 5. Third visit revealed complete reduction in lesions [Figure 10, 11]. Burning sensation aggravates only on having very spicy foods.Topical and systemic steroid dosage was tapered gradually after one month. Patient was followed up once in a month for a period of one year, there was no recurrence of oral lesions till date.

DISCUSSION:

SLE is a great mimicker. Its disease process resembles other diseases to such an extent that it is misdiagnosed and treated as some other disorder [2]. It can affect any cell or any tissue or any organ[5]. SLE causes anemia, leucopenia and infection if it affects RBC's, WBC's and platelets respectively. It can cause arthritis if it involves bone[2].

In the same way RA affects not only bones but, it can also affect extra-articular tissues like RBC's, WBC's, platelets or other cells and can produce same disorders as SLE. Arthritis is bilateral and erosive in RA, while in SLE it's asymmetric and non erosive[6].

In present case, patient had RA and anemia since 10yrs. She developed diabetes, hypertension, anaemia,sicca syndrome with slight loss of vision and interstitial lung disease later Diabetes could be immune related or due to corticosteroids. Previous blood investigation revealed increased levels of ANA -**13.710** compared to the normal reference range (<1.0 – negative,>1.0 positive)

The oral lesions when presented in our dental clinic were similar to the oral lesions of Lupus Erythematosus (LE).The lesions on palate were coin shaped and hence, the name discoid lesions was used here.[2] These are similar to skin lesions seen in SLE/DLE. The occurrence of such discoid lesions is very rare in oral cavity. The patient would have developed SLE as many autoimmune conditions are inter related. So, we can say that this is an overlap syndrome[5]. The overlap syndrome was first described by Dr.Toone in 1960. Later Dr.Schur et al in 1971 reported and described and named the overlap syndrome of RA and SLE as RHUPUS SYNDROME[3,4].

Based on The Systemic Lupus International Collaborating Clinics (SLICC) Group Proposed Revised American College of Rheumatology (ACR) Systemic Lupus Erythematosus (SLE) Classification Criteria, classify a patient as having SLE if 4 of the clinical and immunologic criteria are satisfied[2]. As patient is having Immunologic criteria - ANA level above laboratory reference range, oral ulcers, synovitis involving more than 2 joints, anemia, respiratory involvement (history of breathlessness due to interstitial lung disease), and a diagnosis of Overlap syndrome involving SLE and RA was given. The oral ulcers were associated with SLE and RA[2,6]

The drugs prescribed were topical triamcinolone acetonide 0.1%, Tablet Prednisolone 10mg as corticosteroids has immunosuppressant and anti-inflammatory action[6].Topical antifungal was given as we know candida albicans superimposes on other oral lesions as it is opportunistic commensal[7]. Also long term corticosteroids cause fungal infection as side effect, it was used prophylactically[8]. Also this might reduce burning sensation of mouth as candidiasis cause stomatopyrosis/ burning sensation of mouth[2,9,11, 12].

She was already on methotrexate which has immunomodulatory action and methotrexate will also cause folic acid deficiency. Therefore 5mg folic acid tablet was prescribed by medical practioner. She had continued with drugs prescribed by us. Antioxidants were given for antioxidant action, as nutritional supplements for generalized well being even though RA and SLE are not potentially malignant. [10]

We have to keep corticosteroid induced immunosuppression and its tumor inducing action (carcinogenesis) in mind while giving the above drug. So, the antioxidant supplements help as free radical scavengers[13].

To conclude, autoimmune disorders are not totally curable. But symptomatic /palliative treatment can be given and long term effects of drug should be kept in mind. Oral lesions associated with other disorders like overlap syndrome can sometimes pose challenge to oral physician during diagnosis, but through medical history and clinical examination can reveal the underlying cause for the multiple ulcerative lesions. At the end, same list of drugs can be used to treat autoimmune disorders in general.

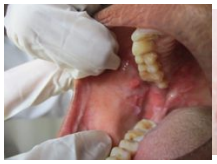

Figure 1 :- Right buccal mucosa - diffuse erosive lesion of size 1x2 cm interspersed with white plaque extending antero posteriorly on mucosa opposite to right upper 1st molar to retromolar trigone

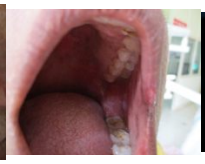

Figure 2 :- Left buccal mucosa- Diffuse erosive lesions present extending antero posteriorly on mucosa opposite to left upper 1st molar to retromolar trigone. Of size 1x1.5cm

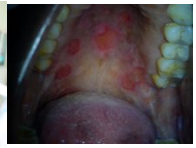

Figure 3:- Multiple discoid shaped ulcers with well demarcated erythematous margin each of size 1x1 cm present on hard palate

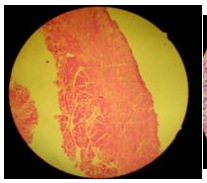

Figure 4:- 4x –low power image shows ulcerated parakeratotic stratified squamous epithelium of varied thickness 40x high power image

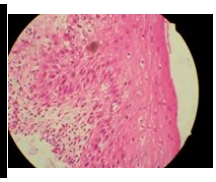

Figure 5:- 40x high power image

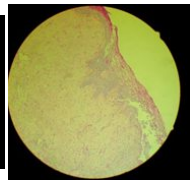

Figure 6:- PAS Stain - Discontinuity in epithelium

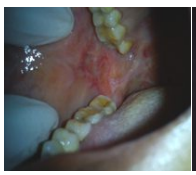

Figure 7: Right buccal mucosa on 2nd visit

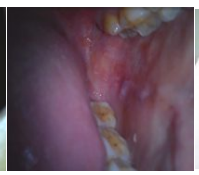

Figure 8: Left buccal mucosa on 2nd visit

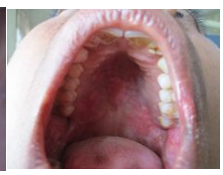

Figure 9: Reduction in size of lesions on palate

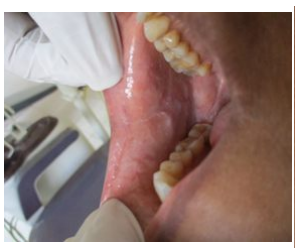

Figure 10:- Complete reduction in size of lesion on right buccal mucosa -3rd visit

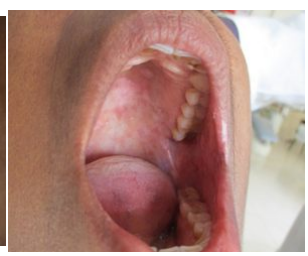

Figure 11:- Complete reduction in size of lesions on palate & left buccal mucosa- 3rd visit

REFERENCES:-

1) Ananthanarayana and Panikers .7th edition textbook of microbiology;2005.169-170.
2) Burket, Lester W., Martin S. Greenberg, and Michael Glick. 2003. Burket's oral medicine: diagnosis & treatment. Hamilton, Ont: BC Decker
3) Toone E, Irby R, Pierce EL. The cell LE in rheumatoid arthritis. Am J Med Sci 1960;

240: 599–608
4) Schur PH. Systemic lupus erythematosus in Cecil-Loeb Textbook of Medicine Beeson PB, McDermott W (eds) Philadelphia, PA 1971, p 821
5) Shafers textbook of oral pathology 7th edition.
6) Colledge, Nicki R., Brian R. Walker, Stuart Ralston, and Stanley Davidson. 2014. Davidson's principles and practice of medicine. Edinburgh: Churchill Livingstone/Elsevier 1109-1111.
7) G.Szucs, Z.Szekanecz. Rheumatology, Volume 46, Issue 6, 1 June 2007, Pages 989–993.
8) Tack DA, Rogers III RS. Oral Drug Reactions. Dermatol Ther. 2002 Sep;15(3):236-50,1.
9) TG Jayakaran .The effects of drugs in the oral cavity- A review J. Pharm. Sci. & Res. Vol. 6(2), 2014, 89-96)
10) David Williams et al.Journal of Oral Microbiology 2011, 3: 5771 - DOI: 10.3402/jom.v3i0.5771.
11) Patil et al. Oral Candidiasis: Clinical and Therapeutic Aspects,Front Microbiol. 2015; 6: 1391
12) Akpan A, Morgan R Oral candidiasis Postgraduate Medical Journal 2002;78:455-459.
13) Sumit Bhateja, IJPSR, 2012; Vol. 3(7): 1971-1975.