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Case Report

Anemia the Culprit of Oral Ulcers: A Case Report Unveiling the Gravity of Comprehensive History Taking and Clinical Evaluation

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Abstract

Recurrent aphthous stomatitis (RAS) is an ulcerative disease of the oral cavity and can occur in isolation or as a manifestation of many systemic diseases. In this case report, the patient came with the complaint of multiple recurring ulcers. Comprehensive history and clinical evaluation helped us to diagnose the condition as RAS associated with anemia and constipation. The patient was treated topical and systemic steroids therapy along with multivitamins consisting of vitamin b12 and folic acid. RAS should not be overlooked as a single entity, always try to look for the etiology behind the condition and this requires the detailed knowledge, history taking, and clinical evaluation by the oral physician.

Key words: Recurrent apthous stomatitis, Anemia, Oral ulcers, RAS

INTRODUCTION

Recurrent aphthous stomatitis (RAS) is a common condition characterized by recurring ulcers confined to oral mucosa in patients with no other signs of disease. Its clinical features include multiple round or ovoid ulcers generally with well-defined borders and erythematous halo surrounding the periphery of the ulcer. Although the etiology of RAS is non-specific, numerous etiological factors have been suggested such as hereditary, trauma, deficiency states, psychological factors, endocrine disorders, allergic conditions, infections, blood dyscrasias, drugs, GI diseases, urological disorders, dermatological, and immunological disorders. The literature review reveals that approximately 25% of the population is affected with RAS and rate of reoccurrence is approximately 3 months.[1]

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There are three forms of RAS which has been recognized clinically as following:

a. Minor aphthous ulcer (Mikulicz ulcer)
b. Major aphthous ulcer (Sutton's ulcers; periadenitis mucosa necrotica recurrents)
c. Herpetiform ulcers.

Enlisting the following systemic diseases, in which we can find the similar-appearing lesions:[2]

- Behcet's disease
- Sweet's syndrome
- Cyclic neutropenia
- Benign familial neutropenia
- MAGIC syndrome
- A periodic syndrome with fever and pharyngitis
- Various nutritional deficiencies with or without underlying gastrointestinal disorders.

Hematinic deficiency (iron, folic acid, or vitamin B12) is twice as common in RAS patients as demonstrated by various studies from the UK, United States, and Spain.[2]

Broides *et al.*[3] outlined that patients with Imerslun Grabeck syndrome had a vitamin B12 deficiency related with a neutrophil chemotactic defect that may become an etiological factor of RAS. Inflammation of the lining of the stomach is a condition known as chronic gastritis which

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develops gradually and can be more difficult to get rid of and may become an etiological factor of RAS.[4] Vitamin B12 malabsorption is induced by chronic gastritis which results in developing the pernicious anemia. The association of deficiency of vitamin B12 and RAS has been infrequently delineated in the literature.[5] Deficiency of vitamin b12 can be a causative factor of RAS as demonstrated by Wray *et al*.[6] Piskin *et al*.[7] observed 35 patients with RAS and concluded that serum vitamin B12 levels were low in eight patients (22.8%). Koybasi *et al*.[8] and Burgan *et al*.[9] conducted various studies and observed that 35.2% of the patients had RAS and 26.6% of the patients had vitamin B12 deficiency. In this case report, the clinical features and management of RAS related to anemia and vitamin B12 deficiency have been described.

CASE REPORT

A 19-year-old male patient came to our department with complaints of painful ulcers in the lower lip, upper lip, and tongue areas for 4 days. The patient gave history of recurrent ulcers in mouth at an interval of 10–15 days for 1 year and heals itself. The patient gave medical history of occasional constipation and is not taking any medications for this. On examination, small whitish colored ulcer of approximately 1 mm* 1 mm with erythematous boundary present on right side of lower labial mucosa opposite to 42, as shown in Figure 1. There are two ulcers of approximately 3 mm* 3 mm in size covered with whitish necrotic material and erythematous boundary present on left side of commissure area, as shown in Figure 2. There are three tiny ulcers covered with whitish necrotic material and erythematous boundary on the tip of the tongue, as shown in Figure 3. There are five ulcers of approximately 2 mm* 2 mm in size covered with whitish necrotic material and erythematous boundary present on the right side of maxillary labial mucosa opposite to 11, 12, 13, 14, and 15, as shown in Figure 4. Other findings include generalized mild supragingival calculus present and generalized mild extrinsic stains present. A provisional diagnosis of recurrent aphthous ulcer was made. The patient was prescribed medications which include topical application of triamcinolone acetonide 0.1% (kennacort) 4–5 times daily on the affected area for 4 days and then tapered to 3 times a day for next 3 days and 2 times a day for next 2 days and once a day for next 1 day. Tablet Prednisolone 5 mg (Omnacortil) twice a day for 4 days and then tapered to once a day for next 3 days. Along with topical patient was prescribed vitcofol 10 ml intramuscular injection alternately for 10 days. The patient was prescribed multivitamins once a day for next 30 days. The patient was also advised to maintain meticulous oral hygiene. The patient was advised diagnostic tests which include complete blood count (CBC) and vitamin b12. The patient was recalled to the department with reports.

Figure 2: Ulcers on the left side of commissure area

Figure 3: Multiple ulcers on the tip of the tongue

Figure 1: Small ulcer on the right side of lower labial mucosa

Figure 4: Multiple ulcers right side of upper labial mucosa

The patient came to the department with reports after 10 days. On examination, after 10 days, ulcers were healed completely without scarring. The patient brought his diagnostic test reports which include CBC which shows Hb 13.2 g/dl, decreased RBC value 3.88 10^6/mm^3, increased MCH value 34.0 pg, and decreased vitamin b12. The patient was referred to the physician and gastroenterologist along with prescription. The patient was advised laxatives for the treatment of constipation and tablet ferrous ascorbate 100 mg and b9/folic acid 1.5 mg (brand name "fericip xt") with tablet vitamin c (brand name "limcee") 500 mg once a day for 1 month and tablet vitamin b12 1500 Mcg (brand name "nurokind od) and recalled him after 1 month.

DISCUSSION

RAS remains a challenge for oral physicians due to its non-specific etiology and disparate clinical presentations. Most patients with RAU need no treatment because of the mild nature of the disease. Few patients are treated with perpetuation of meticulous good oral hygiene, toothpaste without irritating sodium lauryl sulfate, for example, Biotene and palliative therapy for pain management. Mouth rinses include chlorhexidine gluconate, benzydamine, and betadine mouth washes. The following is the topical steroid agents: Hydrocortisone hemisuccinate, triamcinolone acetonide, flucinonide, betamethasone valerate, betamethasone-17- benzoate, flumethasone pivolate, and beclomethasone dipropionate in tapering doses. Systemic steroids include prednisolone in tapering doses. Antibiotics like tetracyclines for topical application and immunomodulators like levamisole, colchicine, gammaglobulins, azathioprine, dapsone, thalidomide, pentoxifylline, prednisolone, azelastine, cyclosporine, and amlexonox can be prescribed topically as well as systemically depending on the severity of the disease.[2]

A huge stride has been made concerning the epidemiology, description, etiology, and treatment of RAS during the past 3 decades. The case reported here supports a diagnosis of RAS due to anemia and vitamin B12 deficiency along with the elucidation of its clinical features and patient response to the management.[1]

Diagnostic tests to check the hematologic status of patients should be done which include CBC, serum ferritin, folate, and B-vitamin levels. These tests should be advised and monitored in suspected cases. If the hematologic work up reveals deficiencies, then either make a congruous referral to the physician or start with replacement therapies. The foremost option for the treatment of RAS is the topical agents which include steroids, antibiotics, and immunomodulators depending on the severity of the lesion. They are inexpensive, effectual, and secure. The use of anti-microbial mouthwash in RAS is contemplated to manage microbial contamination and secondary infection. An antibiotic mouthwash (for example, tetracycline) shows marked reduction in ulcer size, duration, and pain due to its ability to inhibit collagenase activity. The obstacle of the application of topical medications is the washing away from the target area easily with oral fluids. To resolve, this obstacle disparate adhesive vehicle in amalgamation with the drug can be used. For example, strong topical corticosteroids when amalgamated with mucosal adherents are efficacious even with slight contact time. Fluocinonide, triamcinolone, and clobetasol are the topical glucocorticoids which have been efficacious for RAS.[2]

In this case, also patient was having decreased values of vitamin b12, decreased Hb along with gastric problem (constipation). Sir William Osler stated " the oral cavity a mirror of the rest of the body." This patient was reported with the complaints of the recurrent oral ulcers, with the help of knowledge, comprehensive history and clinical evaluation patient was diagnosed with RAS associated with anemia and B12 deficiency. Hence, the patient was advised diagnostic tests which include CBC and vitamin b12, and then, referral to the physician and gastroenterologist for the treatment of anemia and constipation was made.

RAS is diagnosed on the basis of comprehensive history and clinical presentation, but histopathology may be advised to exclude any other chronic ulcerative pathology. The appearance of systemic disease is established based on the discoveries allied to that pathology.[10]

CONCLUSION

RAS is a familiar oral mucosal disease in the world. Appropriate clinical evaluation and detailed history taking to rule out any systemic disease are crucial before prescribing the medication. Besides with conventional RAS management, iron, folic acid, vitamin B deficiencies, and nutritional deficiencies must be scrutinized. Replacement therapy should be based on the levels of vitamin B12 and other hematologic deficits. These therapies can be assumed of great benefit in RAS patients due to its uncertain etiology. RAS could be a possible signal to systemic illness, so it should never be overlooked as an isolated disease, always try to find out the etiology and manage appropriately.

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