

TITLE: STRESS RELATED APHTHOUS ULCER

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Abstract

Aphthous ulcer or Recurrent aphthous stomatitis(RAS) is one of the common mucosal disorders of the mouth. The exact etiology of aphthous ulcer is uncertain, precipitated factors include stress, trauma, food sensitivity, and genetic predisposition. This article highlights the relation of stress with aphthous ulcer.

Keywords:

Perceived stress, Recurrent aphthous stomatitis(RAS),Ulcer.

INTRODUCTION

Stress is an automatic body's response to any physical, mental or emotional demand placed on it. It is known as the “**fight-or-flight-or-freeze**” reaction, or the **stress response**. A series of chemical events occur during stress which affect various organs to make us ready for bearing these unpleasant stimuli.¹As a response to prolonged exposure to these chemical changes body develops various homeostatic/ metabolic/ endocrinal/ immunological disturbances. The aim of this article is to highlight stress related Aphthous ulcers.²

WHAT IS STRESS?

Stress is the way human beings react to changes, events, and situations both physically and mentally. Based on intensity of stimulus; it can be classified as mild, moderate and excessive stress .Mild stress may result in boredom; whereas moderate stress may actually improve your performance and efficiency by keeping you stay focused. Excessive stress starts causing major damage to health, mood, productivity, relationships, and quality of life³.

Symptoms:

- i. Cognitive symptoms: memory problems, inability to concentrate, poor judgment, anxious, constant worrying
- ii. Emotional symptoms: moodiness, irritability or short temper, agitation, inability to relax, feeling overwhelmed, sense of loneliness and isolation, depression
- iii. Physical symptoms: aches and pains, diarrhea or constipation, nausea, dizziness, chest pain, rapid heartbeat, loss of sex drive, frequent colds

- iv. Behavioral symptoms: eating more or less, sleeping too much or too little, isolate oneself from others, procrastinating or neglecting responsibilities, using alcohol, cigarettes, or drugs to relax, nervous habits like nail biting etc.²

RECURRENT ORAL ULCERATIONS (APHTHOUS ULCERS)

RAS is an immunologically mediated, inflammatory oral condition characterized by the appearance of one or more painful ulcers on oral mucosa which heal and re-occur after a few days or weeks. The etiology is not clearly understood but stress/immune responses are involved in the pathogenesis with Iron, vitamin B12 & folic acid deficiency as predisposing factors⁴.

Classification

Based on clinical manifestation:

- Recurrent aphthous minor (Canker sore): Most common form of RAS, representing 80-85% of cases. Ulcers are shallow, approximately 1 cm in size, and generally last for 10-14 days. They occur commonly on the labial or buccal mucosa, soft palate, tongue or floor of the mouth. There may be prodromal burning or stinging sensation prior to appearance of the lesions. Scar formation does not occur with healing of minor aphthae.⁵⁻⁸
- Recurrent aphthous major (Mikulicz's scarring aphthae): They are rare, representing only 10-15% of cases. Ulcers are larger than 1 cm, deeper and are of longer duration than minor aphthae. They form a scar with healing.⁵⁻⁸ seen with human immunodeficiency virus (HIV) infection.⁹
- Recurrent herpetiform ulceration
- Recurrent ulcer associated with Behcet's syndrome, Sweet's syndrome, Magic syndrome, PFPA syndrome.¹⁰

Precipitating factors¹¹

- Trauma
- Endocrinal conditions
- Psychic factors
- Allergic factors such as history of asthma, Hay fever, or food or drug allergy.

Pathogenesis:

The exact etiology and pathogenesis of RAS is unknown. It is likely that in genetically predisposed individuals, immune dysfunction linked to various triggers lead to development of aphthosis. Local immunological dysfunction is related to increased T-lymphocyte subpopulations (CD4 and CD8) though the initial stimulus is not known. Changes in serum levels of immunoglobulins have also been described, which may play a role in the pathogenesis and alterations in cell adhesion molecules that maintain a stable structure of the oral epithelium.^{12, 13}

Treatment:

Avoid spicy foods. Antibiotic (especially Tetracycline) mouthwash, topical steroid or topical antiseptic gel and multivitamin tablets can be used in treating these ulcers⁴. Mouthrinses like Chlorhexidine gluconate, Benzylamine hydrochloride, Carbenoxolone disodium, Betadine can be used. Topical corticosteroids like Hydrocortisone hemisuccinate (pellets), Triamcinolone acetonide (in adhesive paste), Flucanone (cream), Betamethasone valerate (mouthrinse), Betamethasone- 17-benzoate (mouthrinse), Flumethasonepivolate (spray), Beclomethasone dipropionate (spray) can also be used. Immunomodulators like Levamisole, Transfer factor, Colchicine, Gammaglobulins, Azathioprine, Dapsone, Thalidomide, Pentoxifylline, Prednisolone, Azelastine, Alpha-2-interferon, Cyclosporin, Amlexanox, 5-amino salicylic acid are used in severe recurrent cases. Others such as Systemic zinc sulphate, Monoamine-oxidase inhibitors, Sodium cromoglycate, Deglycrrhizinated liquorice, Sucralphate, Etretrate, Low-energy laser can be used in treatment of RAS.¹⁴

STRESS RELIEF STRATEGIES

Stress is relieved by Body Relaxation Exercises like breathing techniques, Physical Exercises like yoga/routine work out, Meditation, Counseling and Social Support. Other suggested methods to avoid or manage stress are good nutrition, changing perceptions and expectations, break jobs/tasks into manageable parts, setting reasonable & realistic goals, don't compromise on your values/beliefs.¹⁰

CONCLUSION

Consequences of stress are far beyond the temporary feeling of pressure & affects body systemically. Though we can't avoid stress completely we can learn to manage it and develop skills to cope-up with such situations. The key is the way you interpret and react to such circumstances. Early professional intervention can be a life saver in many cases.

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