

THE STUDY OF CAUSES, MANAGEMENT, AND ASSOCIATED SYSTEMIC INFECTIONS OF ORAL ULCERS

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Abstract

Background: Small sores that appear inside the mouth are called mouth ulcers, and they include canker sores. Mouth ulcers can be brought on by some accidents, allergies, or sensitivities, but there are no known causes for them. Infections caused by bacteria, viruses, or fungi in the mouth; shortages in some nutrients, particularly folate (vitamin B9); changes in hormones, such as those brought on by menstruation or pregnancy; emotional strain; and insufficient sleep. The treatment of chronic recurrent oral aphthous ulcers is symptomatic, mainly with topically applied agents. It is tailored to the severity of the problem in the individual case, i.e., the frequency of ulcers, the intensity of pain, and the responsiveness of the lesions to treatment. **Materials and Methods:** In the general medicine and dentistry department of the Government Medical College in Jagdalpur, Chhattisgarh, a prospective study was conducted there were eighty patients in all who were part of this study. Every patient included in this study provided signed, informed permission. A clinical examination of the oral cavity was carried out. A complete medical history of the family was recorded, including details regarding any patterns of alcohol, tobacco, or cigarette usage. Any systemic illness and any relationships to ulcers were included in the medical history that was documented. **Result:** Of the 120 participants, 14 fall within the 18–24 age range, 38 fall within the 25–39 age range, 25 fall within the 40–50 age range, and 43 fall within the 50 and above age range. The age group of 50 and beyond has the highest total number of subjects (n = 120), with 65 male subjects and 55 female ones. Twenty had undergone trauma, twenty had hormone imbalance, twenty had bacterial infection, twenty had viral infection, two had cancer, one had been exposed to microbiological agents, and fifteen had idiopathic ulcers. A greater percentage of the subjects—29, or 24.16 percent—have illnesses caused by bacteria. 30 received treatment with mouthwash, 55 received treatment with steroid ointment, 4 received treatment with immunosuppressive medications, and 31 received treatment with multivitamin tablets. **Conclusion:** A more methodical evaluation of oral ulcers with precise ulcer characterization, a planned care strategy, and a specified follow-up period may improve treatment outcomes.

INTRODUCTION

An extremely prevalent condition affecting the oral mucosa is oral ulcers. Oral ulcers can be a symptom of a number of systemic diseases, such as inflammatory bowel disease, and several risk variables have been proposed. The underlying systemic disease determines the type, location, length, and frequency of oral ulcers. Furthermore, in the majority of illnesses discussed in this paper, a histological investigation typically warrants a clear diagnosis. It is evident that discussing every oral

condition that leads to oral mucosal ulcers is not feasible; thus, this article will concentrate on ulcerative illnesses that are either pertinent to gastroenterology or of general clinical value.^[1]

Oral ulcers are quite frequent, and while the majorities are brought on by trauma or recurrent episodes, some can be the symptom of a systemic illness that is underlying or they can be the result of a malignant illness, primarily oral cancer. The etiology of mouth ulcers should always be kept in mind, including malabsorption conditions, hematological disorders, cutaneous diseases,

connective diseases, medications, and infections including HIV. Studies conducted in a number of nations have revealed that people with mouth ulcers may consult dentists or other medical professionals; they may be persuaded to self-medicate with proprietary preparations that are rarely useful according to scientific research; or they may seek advice from the community pharmacy.^[2]

The length of time an ulcer takes to develop, the quantity of ulcers, and the etiological factors can all be used to categorize ulcers. An ulcerative lesion that persists for more than two weeks is categorized as a chronic ulcer. Acute ulcers usually cause discomfort and last no more than two weeks, while recurrent ulcers have a history of similar episodes with inconsistent healing and chronic ulcers can persist more than two weeks. A single ulcerative lesion is referred to as a "solitary ulcer," whereas many ulcerative lesions are referred to as "multiple" lesions. It might be difficult to identify oral ulcerative lesions due to the wide range of presenting symptoms and causal variables. Ulcers may occur as a result of systemic or local reasons.^[3]

When the oral epithelium is breached during the process of oral ulceration, nerve endings in the lamina propria beneath are usually exposed. This can produce pain or soreness, especially after consuming spicy or citrusy meals. A correct diagnosis is essential for successful treatment and lesion prevention; since most ulcers need to have the underlying cause addressed. The advent of the twenty-first century has abruptly imposed new expectations for cutting edge patient care on the dental profession. With the advent of evidence-based reasoning and new information technology, conventional practices that have benefited the profession are coming under scrutiny. The use of computer and information technologies to enhance dental research is known as dental informatics.^[4]

The condition of the body as a whole, including its organs and level of hydration, is reflected in the mouth cavity. Before the systemic disease itself is suspected, signs of the condition frequently appear in the mouth. Certain alterations observed in the oral cavity are specific to a particular disease, while others might just raise the suspicions of the clinician. To guarantee that no region of the oral cavity is overlooked, a systematic approach to examination is necessary. This article follows a step-by-step procedure that includes assessing the mucosa's color and pigmentation, looking for lesions on the mucosal surfaces and palate, assessing the tongue, gingival surfaces, and finally the dentition. When conducting the physical examination, the mandibular and maxillary bone structures must also be taken into consideration.^[5]

MATERIALS AND METHODS

A prospective study was carried out in the general medicine and dental department of government medical college jagdalpur, Chhattisgarh. The study was carried out from the year 2019 to 2020. The total number of patients included in this study was 80. All of the patients who were part of this trial gave written informed consent. Age groups starting at 18 years old who were undergoing examinations in the dental and medical departments were included in the study. An oral cavity clinical examination was conducted. A thorough family medical history was documented, along with information about any cigarette, alcohol, or tobacco use patterns. Medical history was recorded to incorporate any systemic disease and any associations with ulcers.

Inclusion Criteria

- All age groups were included in this study.
- All patients who gave written informed consent were included in this study.

Exclusion Criteria

- Suspected malignant ulcer patients were excluded from the study
- Lack of informed consent from patients.

Statistical Analysis: The gathered information was put into a Microsoft Excel spreadsheet, which was then exported to the data editor of SPSS Version 20.0.

RESULTS

[Table 1] shows age and sex distribution of study subjects. Out of 120 subjects, 14 subjects are in the age group of 18 – 24, 38 subjects are in the age group of 25 – 39, 25 subjects are in the age group of 40 – 50 and 43 subjects are in the age group of 50 and above. Total number of subjects is more in the age group of 50 and above and numbers of male subjects are more i.e. 65 than female subjects i.e. 55 out of 120.

[Table 2] shows causes and risk factors of study subjects. Twenty of the 120 individuals had experienced trauma, twenty had experienced hormone imbalance, twenty had experienced bacterial infection, twenty had experienced viral infection, two had experienced malignancy, one had experienced microbial agent exposure, and fifteen had idiopathic ulcers. A higher number of subjects— 29, or 24.16 percent—have bacterial infections.

[Table 3] shows management of oral ulcers. Of the 120 participants, 30 received treatment with mouthwash, 55 received treatment with steroid ointment, 4 received treatment with immunosuppressive medications, and 31 received treatment with multivitamin tablets.

Table 1: age and sex distribution of study subjects

AGE (in Years)	Males	Females	Total
18 - 24	8	6	14
25 - 39	18	20	38
40 - 50	14	11	25
50 and Above	25	18	43

Total	65	55	120
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Table 2: causes and risk factors of oral ulcers

Causes/ Risk Factors	No of Subjects	Percentage
Traumatic	20	16.66%
Hormonal Imbalance	28	23.33%
Bacterial Infection	29	24.16%
Viral Infection	25	20.83%
Malignancy	02	1.66%
Microbial Agents	01	0.83%
Idiopathic	15	12.5%
Total	120	100%

Table 3: management of oral ulcers

Management	No of Patients	Percentage
Mouth Rinse	30	25%
Steroid Ointment	55	45.83%
Immunosuppressive drugs	04	3.33%
Multivitamins	31	25.83%
Total	120	100%

DISCUSSION

One of the most prevalent painful oral mucosal disorders that patients face is recurrent aphthous stomatitis (RAS). RAS or recurrent aphthous stomatitis is a frequent oral cavity illness. Given that it might be upsetting and result in pain and suffering, it is seen as significant. Furthermore, it disrupts regular activities by influencing eating and swallowing. According to reports, 20% of the general population is affected by RAS at any given moment. Childhood is the prime time for RAS onset, and as people age, their incidence and severity tend to decline. The prevalence of aphthous varies widely between countries, ranging from 5 to 66% in different demographics and age categories.^[6]

There are five types of oral ulcerative lesions: recurrent, multiple chronic, solitary acute, and multiple acute. Traumatic shocks, bacterial or viral infections, allergies, and cancer chemotherapy can all cause acute mouth ulcerations. In contrast to viral stomatitis, which manifests as several small, symmetrical ulcers that occasionally combine to create larger lesions with scalloped margins, acute traumatic ulcers typically present as solitary lesions with vague clinical forms. Any intraoral site can be affected by allergic stomatitis, which typically has a history of simultaneous exposure to contactants or systemic allergens. Chemotherapy-induced stomatitis can be extremely diffuse, but it differs from other acute oral ulcerations in that its onset is correlated with treatment.^[7]

Oral aphthous ulcers healed more quickly and with less discomfort when 5-aminosalicylic acid 5% cream was applied, according to a double-blind, placebo-controlled trial. When taken in the prodromal stage, Amlexanox 5% paste or 2 mg tablets reduced discomfort and both the number and size of oral aphthous ulcers. It has been noted that smoking is associated with a lower incidence of oral aphthous ulcer recurrences. When a patient smokes as opposed to abstains from tobacco, there seems to be a decrease in both the quantity of lesions and the

time between recurrences. There is experimental evidence that nicotine reduces keratinocyte inflammation.^[8]

Individualized treatment plans should be developed based on the patient's symptoms, underlying medical issues, extra-oral lesion existence or absence, severity and frequency of relapses, and other factors. Topical treatment with analgesics, corticosteroids, and antibiotic preparations is the first step in the typical therapeutic ladder for RAS. 1.14 Of these, topical corticosteroids have continued to be the cornerstone of RAS treatment; they have been found to shorten the time it takes for oral ulcers to resolve, but they do not lower the rate of recurrences. Twenty Intraregional corticosteroid injections have been used despite the lack of randomized trials for usage in RAS, as they have demonstrated efficacy in treating HIV-associated aphthosis and oral lichen planus.^[9]

Aphthae are observed in the following conditions: coeliac disease, Crohn's disease, HIV infection, neutropenia, and other immunodeficiencies; Behcet's syndrome, which may present with genital, cutaneous, ocular, and other lesions; and haematinic deficiency (iron, folate, or vitamin B-12). When Behcet's syndrome is present, mouth ulcers are frequently severe aphthae that take a long time to heal. Aphthae also cause pharyngitis, cervical adenitis syndrome, aphthous stomatitis, and recurrent fever in youngsters. Prolonged aftereffects are uncommon, and the illness resolves on its own. In terms of treating symptoms, corticosteroids are very efficient; tonsillectomy and cimetidine therapy have also been beneficial in certain cases.^[10]

CONCLUSION

Diagnosing oral ulcers is usually difficult and requires a comprehensive clinical examination and history collection. It is an undeniable reality that oral presentation could indicate a more serious underlying systemic illness. The exact diagnosis of oral ulceration may require a biopsy; also, any unexplained ulcer in the oral cavity that does not heal

after two weeks should be investigated under a microscope. Serologic and hematologic tests can be used to make a diagnosis. Following diagnosis, treating the underlying ailment usually causes the ulcers to disappear. Patient outcomes and treatment outcomes may be enhanced by a more systematic assessment of oral aphthosis that includes accurate ulcer characterization, a planned care protocol, and a defined follow-up period.

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