

# CLINICAL OBSERVATION OF APHTHOUS STOMATITIS, ESPECIALLY THE RELATIONSHIP BETWEEN STOMATITIS AND EPIPHARYNGITIS

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## ABSTRACT

That aphthous stomatitis is etiologically closely related to the inflammatory process within the epipharynx, particularly in the chronic recurrent intermittent type, has long been suspected.

In 19 cases of this type of aphthae severe epipharyngitis was found in 15 cases. To these 15 cases the treatment was directed toward the epipharyngeal area alone; in 9 cases the aphthae abated without any further treatment to the lesion itself.

Furthermore, in 7 of the latter 9 cases the oral lesion was completely cured without any further recurrence.

## I. INTRODUCTION

Not many articles have been published on aphthous stomatitis, and so far as the etiology is concerned, there are many theories such as vitamin deficiency, hormone unbalance, gastrointestinal malfunction, general fatigue, virus infection and so on. Many different kinds of treatments have been reported but so far no specific treatment has been found except cortical hormone of adrenal gland which gives temporary improvement.

In our opinion, giving temporary relief is not the primary target of treatment but the final purpose of treatment should be the prevention of occurrence of habitual stomatitis.

But there have been rare reports which emphasize the importance of prevention and the treatment of habitual recurrence of stomatitis.

We have carried out clinical observation of epipharyngitis for more than 10 years and a close relationship has been noticed between the condition of epipharyngitis and the occurrence of stomatitis. Under the assumption of existence of possible relationship between epipharyngitis and stomatitis, long term observation has been carried out on the stomatitis cases in which the main treatment was focused on the epipharynx. Good results

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have been obtained by this simple treatment. The course of stomatitis was shortened and under long term observation the stomatitis did not recur.

In the stubborn case of habitual stomatitis, recurrence was noted but was less frequent after the treatment. A patient who had experienced attacks of stomatitis monthly was given relief for a period of several months to a year.

Since the etiology of aphthous stomatitis has not been clearly explained, we present our observations and discuss the possible contribution in the search for the explanation of this disease and its treatment.

## 2. CLINICAL OBSERVATION OF APHTHOUS STOMATITIS

Nineteen cases are reported. All have been seen at our out-patient department between May, 1960 and March, 1961.

- (i) Age and sex are not described here.
- (ii) The majority of cases showed recurrences of about one month interval. Fourteen of 19 cases showed one ulcer per attack.
- (iii) Location of ulcer:

- \* Classification (1)

Inside mucosa of lip	18		
Gingiva	8	Buccal area	7
Tongue	6	Soft palate	2
Laryngeal vault	1		

- \* Classification (2)

Upper part of the month	12
Lower part of the mouth	30

## 3. OBSERVATION OF THE EPIPHARYNX

Epipharyngeal examination was done in all cases. Examination technic used will be described briefly. A cotton nasal or pharyngeal applicator was inserted into the epipharynx and, touch pain and bleeding were checked when the manipulation was carried out.

Smear tests were done and morphological examination of cilia of desquamated epithelial cells was studied. In addition to this, bacterial study was done. Fifteen cases showed evidence of inflammation in the epipharynx. Four cases were obscure.

## 4.

- a) Method to identify the result of treatment:
  - (i) Prolongation of the intervals of recurrence.

It is very important to observe the intervals of recurrence in a case of stomatitis. If the treatment is effective, this interval becomes longer and finally no recurrence is noticed.

(ii) Size of ulcer.

Aphthous ulcer is usually covered with a yellowish coating and surrounded by reddish discoloration. When ulcer becomes worse, the pain becomes more severe and the size of ulcer enlarges. Marginal redness becomes more apparent. When the stomatitis improves, ulcer becomes poorly demarcated. Subjectively, pain becomes less severe.

These acute inflammatory signs are improved by the local treatment of the ulcers. We observed cases in which the only treatment was the topical treatment of epipharyngitis and no local or general treatment of ulcers was carried out.

The most important finding was touch pain in the back of soft palate. Fifteen of 19 cases showed touch pain. Nine of 15 cases showed disappearance of touch pain with treatment. Two cases showed slight improvement of touch pain. In 4 cases touch pain persisted regardless of treatment even after the ulcer had disappeared.

b) Results:

Nine cases showed good response. Slight improvement was noted in 2 cases. The results of 8 cases (complicated with sinusitis 1, combined with allergic rhinitis 1, complicated with chronic tonsillitis 1, 4 cases with no touch pain) were not clear.

Table 7 shows the relationship between the condition of epipharyngitis and prognosis of stomatitis. In this table, 7 of 9 cases showed good response with regard to stomatitis and the condition of epipharynx also showed improvement. One case showed no effect. There was no improvement of stomatitis in 4 cases which also showed no signs of improvement of epipharyngitis. Negative results of these cases do not exclude the possibility of a relationship between epipharyngitis and stomatitis.

If another more effective treatment for epipharyngitis were found, the possibility of simultaneous improvement of stomatitis seems likely to exist.

One of 3 cases with no touch pain in the epipharynx had good response but no improvement was seen in 2 cases.

Table 1: Chief Complaints

Habitual aphtha	11 patients
Others	8 //

Table 2: Time-Relation of Nasal and/or Pharyngeal Complaints with First Eruption of Aphtha.

Before eruption	14 patients
After eruption	1 //
Unknown	4 //

Table 3: Conditions Preceding Occurrence of Aphthous Stomatitis During Treatment of Epipharyngitis.

Exacerbated epipharyngitis	15 cases
Fatigue	6 //
Gastrointestinal disorders	2 //
Heavy drinking	1 //
Menstruation	1 //

Table 4. Relation Between Degree of Epipharyngitis and Recurrence of Aphthous Stomatitis.

Interval of recurrence	Degree of inflammation		
	Severe	Mild	No findings
Less than one month	5	0	0
A few months	1	10	3

Table 5: Relation Between Degree of Epipharyngitis and Number of Aphthae.

Number of aphthae	Degree of inflammation		
	Severe	Mild	No findings
More than one	5	1	0
One	1	9	3

Table 6: Relation Between Frequency and Number of Aphthae.

Frequency	Number	
	More than one	One
More than one per month	4	1
One per month	1	5
One per every two months	0	8

Table 7: Relationship Between Epipharyngeal Pain on Touch and Effect of Treatment.

Epipharyngeal pain on touch	Effect of treatment of Aphthous Stomatitis		
	Effective	Moderately effective	Not effective
Relieved	7	1	1
Moderately relieved	1	1	0
Not relieved	0	0	4
No pain before treatment	1	0	3

Table 8.

Case	Age	Sex	Epipharyngeal Pain on Touch	Epipharyngitis	Interval of Recurrence *	Number of Aphthae **	Effect of the Treatment	
							(1) on Epipharyngitis	(2) on Aphthous Stomatitis
Kimura	27	f	++	++	++	++	++	++
Kato	24	f	++	++	++	+	++	++
Fujii	30	f	++	++	++	++	-	-
Kobayashi	44	f	++	++	++	++	++	-
Yamada	22	m	+	+	+	+	++	++
Okabe	19	m	+	+	+	+	++	++
Ishii	26	f	++	++	++	++	++	++
Naito	22	f	++	++	-	+	-	-
Kumagaya	34	m	+	+	-	+	++	+
Watanabe	66	m	+	+	+	++	-	-
Shibata	36	m	-	-	-	+	(-)	-
Nakamura	27	f	+	+	-	+	++	++
Muto	44	f	-	+	-	+	-	-
Kuroiwa	32	m	+	+	+	+	++	++
Shinada	22	f	+	+	-	+	+	+
Oshiro	43	m	-	-	+	+	(-)	-
Ishikawa	34	m	+	+	-	+	(-)	-
Aoki	34	m	+	+	-	+	+	++
Sunagawa	17	m	-	-	+	+	(-)	++

\* (++) Less than one month  
 (+) One month  
 (-) More than one month

\*\* (++) More than one aphtha  
 (+) One aphtha

## 5. CASE REPORT (Table 8)

I) *U.O. 20-year old male*

*Chief complaint:* Postnasal drip.

*Course:* He had nasal obstruction with postnasal drip for the past 2 years but no treatment was given. Since one year ago, he developed aphthous stomatitis every 1–2 months. These aphthous ulcers healed spontaneously within 10 days.

*Past and family history:* Nothing contributory.

*Clinical findings on the first visit:* No remarkable findings were noted by anterior rhinoscopy. X-ray and clinical examination denied the presence of sinusitis. Reddish swelling with thick purulent material was found in the epipharynx and severe touch pain was induced when the back of soft palate was manipulated by the cotton applicator. Smear showed a moderate number of desquamated epithelial cells with inflammatory changes. This patient came to see us with a complaint of postnasal drip, not for his stomatitis. But frequent recurrences of stomatitis were seen.

*Treatment and prognosis:* On the first examination there was no evidence of stomatitis and the epipharynx showed moderate degree of inflammation. Daily application of 1% ZnCl<sub>2</sub> solution were carried out. After a week of treatment, a small ulcer developed in the mouth and lasted for a week. However, the patient stated that subjective symptoms such as pain and feverish sensation were not so severe. We often see a temporary occurrence of stomatitis after the institution of treatment. Remarkable improvement in postnasal drip and nasal obstruction was noted after one month of therapy. No recurrence of stomatitis was noted during the 5-month observation. Therefore, he was told that medical care was no longer necessary. After catching common cold, he developed a foreign body-sensation of epipharynx, and stomatitis reappeared 4 days later. Epipharynx was treated and the stomatitis improved after 5 days of treatment. No recurrence was found during the epipharyngeal treatment.

Three months later he was forced to discontinue medical care due to the pressure of college entrance examination. Postnasal drip became worse and there was recurrence of stomatitis (twice a month). So local treatment of epipharynx was started again. He had several episodes of slight stomatitis but no recurrence has been seen since then. He is still under observation. This case clearly indicated the relationship between stomatitis and epipharyngitis.

II) *Y.K. 32-year old male*

*Chief complaint:* Pain in the mouth.

*Present illness:* Since the age of 6 when he suffered from whooping cough, he had been in poor health. Since the age of 7 or 8, he had had one or two episodes of aphthous stomatitis per month. The attack lasted about 10-14 days. Only mouth wash with boric acid solution was given. Stomatitis occurred mostly when he had an upset stomach. Lately the occurrence of stomatitis became more frequent and was seen mostly after flu, gastrointestinal disturbance or heavy drinking. Temporary relief was obtained by vitamin B<sub>1</sub> injection and local treatment.

*Findings on the first visit:* Deviation of nasal septum to the left and reddish swelling of both inferior turbinates were seen. Remarkable engorgement was noted in the epipharynx by naso-pharyngoscopy. Severe touch pain was reported when the back of soft palate was manipulated with cotton applicator. Smear test showed evidence of chronic inflammation.

*Treatment and prognosis:* One attack of stomatitis was seen after one month treatment and another attack was seen on the second month visit. Intervals between the attacks were prolonged and the size of ulcer decreased. Subjective complaints improved gradually with the improvement of epipharyngeal findings. Recurrence of stomatitis has not been reported to this time. There was no subjective complaint in regard to the epipharyngitis but inflammation was discovered on careful examination. Close relationship was found between the degree of epipharyngeal inflammation and prognosis of stomatitis. Therefore, we feel that epipharyngeal inflammation may play a major role and oral lesion may be the sequence of focal infection. Like this case we encountered many cases without subjective symptoms in regard to epipharyngitis. Therefore, careful examination of the epipharynx should be done to disclose the presence of the inflammation.

III) *T.K. 27-year old female*

*Chief complaint:* Foreign body-sensation of epipharynx and postnasal drip.

*Course:* She had had nasal obstruction with discharge since childhood. She also had episodes of frequent tonsillitis. Since 2 or 3 years ago, postnasal drip, foreign body-sensation of epipharynx and stiffness of shoulder have been aggravated. At the same time an attack of aphthous stomatitis had occurred every three months. Since one year ago, recurrence of stomatitis became more frequent and attacks were seen every month. About 2 weeks before her first visit, she suffered from common cold and nasal symptoms became worse. So she came to visit us.

*Findings on the first visit:* Remarkable redness was noted in both turbinates. Posterior rhinoscopy showed extensive redness in the epipharynx. Considerable amount of bleeding with touch pain was seen after the topical

application of medicine in the back of the soft palate.

*Treatment and course:* Only topical treatment was used. Improvement of post nasal drip, foreign body-sensation and stiffness of shoulder was noted after starting local treatment. Aphthous ulcer was improved and the interval between attacks was prolonged. One small ulcer per month was present during the past 4 months and lasted 3-4 days. Pain due to ulcer was very slight. On the fifth month she had common cold and nasal complaints became worse again. Aphthous ulcer appeared 2-3 times per month. After continuing the local treatment, small ulcers occurred only twice and no recurrence was noted during the past 4 months. This case again showed the relationship between epipharyngitis and aphthous stomatitis. When the epipharyngitis became worse, stomatitis also became aggravated.

IV) *K.N. 27-year old female.*

*Chief complaint:* Postnasal drip.

*Course:* She had had slight postnasal drip since several years ago. About 3 years ago, she began to have stomatitis which occurred every third month. This stomatitis occurred mostly when she became tired or suffered from common cold. However, no special treatment was given.

*Findings:* No abnormality was seen by anterior rhinoscopy. By posterior rhinoscopy redness with the presence of nasal discharge was found in the epipharynx. No evidence of sinusitis was found. Marked touch pain was noted on manipulation. Smear revealed the evidence of chronic inflammation.

*Treatment and prognosis:* Local treatment was given. On the second day of treatment, stomatitis occurred but improved by the fifth day of treatment. Since then daily treatment were carried out and no signs of recurrence are reported in spite of acute exacerbation of epipharyngitis and general malaise due to overwork. Lately the smear showed improved cytological findings. In this case and case No. 1, stomatitis occurred just after the first local treatment. This phenomenon may be explained on the basis of temporary aggravation of epipharyngitis by the topical application of 1%  $ZnCl_2$  solution.

## 6. DISCUSSION

Aphthous stomatitis is a common disorder. Many cases are seen not only in the E.N.T. department but also in surgery, internal medicine and pediatrics. So far no specific treatment has been recommended and at the moment there is no specific cure and prevention of stomatitis. Adrenal cortical hormone has been used for the treatment of aphthous stomatitis but



the result are not optimistic. Here, we reported on several cases of stomatitis which were improved by the local treatment of epipharyngitis.

Although this report is based on empirical facts, it is interesting to consider the possibility of the existence of relationship between stomatitis and epipharyngitis. Yet no definite theory to explain this interesting relationship has been formulated. However, clinical observation suggests that there could be some interrelationship between these two diseases. As mentioned previously, there is always a hidden inflammation in the epipharynx in cases of habitual stomatitis. In most cases of epipharyngitis there is no clear subjective complaint even though there is a definite inflammation. Many physicians ignore this area which is very difficult to examine. This may be the reason why there have been few reports on this matter. It is understandable that this type of examination is not done in cases of stomatitis and certain allergic conditions since patients do not complain of discomfort in the epipharynx. If we can prove the relationship between these two conditions, the understanding of the nature of stomatitis and its treatment will be advanced one step further.

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