

CURE OF UVEITIS BY REMOVAL OF ORAL FOCI

—A Report of case—

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口腔內 病巢 除去에 依한 葡萄膜炎의 治驗 1 例 報告

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ABSTRACT

眼球的 虹彩, 毛樣體 및 脈絡膜은 相異한 機能을 하나 이의 發生, 構造, 血管 및 神經系 등의 共通點이 많으므로 炎症發生時 어느 한 部分에 局限되지 않으므로 選擇하여 葡萄膜炎이라하며, 隣接器官의 炎症 및 波及은 內因性感染 即 肺炎 등 흔한 原因이며 口腔과는 葡萄官 및 Cavernous Sinus 등을 통한 Uveoparotid fever, Mikulicz's Disease 또는 Sjogrene Syndrome 등과 깊은 關係가 있으며, 一般 및 特殊治療에도 大部分 完治되나 例外가 있는 바 저자는 六個月餘에 걸친 眼科的 治療의 結果 아무런 好展이 없는 葡萄膜炎 患者에 病巢感染說을 뒷받침하여 口腔內病巢를 完全除去한 結果 좋은 豫後를 觀察, 이에 報告하는 바이다.

INTRODUCTION.

Oral foci of Infection have been related to general health since the vary inception of the theory of focal infection early in the twentieth century. Benjamin Rush et al had removed many questionable teeth according to the clinical observation during

the infancy of microbiology in 1920's. Medical and dental practitioners on the enthusiastic acceptance of this concept has gradually wanted to promulgate. But it is still considerable controversy about its clinical significance. Nowadays this concept and research is more prevalent in communist world than democratic world, and so the literatural study has of much difficulty. The author had treated the patient for 20 days and has gained wonderful prognosis (Diagnosis by Department of Ophthalmology, Seoul National University Hospital)

Now, the author reports the cure of eye disease by dental practice. This paper is to present a case of uncurable uveitis treated radically by means of removal of root rest, apical granuloma and oral prophylactic measure.

SURVEY OF LITERATURE.

Many ophthalmologists⁽¹⁻²⁻³⁻⁴⁻⁵⁻⁶⁻¹¹⁻¹⁷⁻¹⁸⁻¹⁹⁾ believe that oral foci of infection as etiologic or aggravating factor in the eye diseases such as iridocyclitis, iritis, episcleritis, tenonitis, optic neuritis, keratitis, glaucoma and retrobulbar neuritis. Roper-Hall's⁽²⁾ extremely intimate association between oral sepsis and diseases of the uveal tract is well known theory. Definition⁽¹⁻³⁻⁵⁻⁷⁻⁹⁻¹¹⁻¹²⁻¹⁴⁾ of focal infection is a circumscribed area of tissue which is infected by exogenous pathogenic microorganisms and is usually located near a mucous or cutaneous surface. That area of focus which has infective organism or toxins metastasize to the other part of the body and capable of injury tissue. Its course is usually by hematogenous or lymphogenous spread or etc. (questionable unknown pathway) Rheumatic fever⁽⁴⁻⁵⁻⁶⁻¹⁴⁻¹⁶⁾ is well known altered reactivated hypersensitization by hemolytic streptococci of remote or metastatic origin. Above theory is well established by Smith⁽⁶⁾ especially on the ocular complication. Root canal in situ as the focal infection theory was well established by Morse and Yates⁽⁷⁾ by laboratory and experimental study. Ostlander and Crowley⁽⁸⁾ yielded similar results. The author had took great note on this point that infected periapical infection theory. The periodontal theory also took great part by Mitchell and Helman's study⁽⁹⁾. Burckett⁽¹⁰⁾ studied the bacteriologic, the radiologic and histologic findings of necrotic teeth in 1938. The author's studies coincide with Burckett's theory and Morse, Yates, Ostlander and Crowleys. One of the most striking feature of cultures from

teeth during root canal therapy is the relative infrequency of occurrence of hemolytic streptococci as Smith's study. As for periodontal disease, previous study of Richards⁽¹¹⁾ discovered simple message of inflamed gingiva results in a transitory bacteremia in 17% and production of the focal infection as the Mitchell and Helman's study. Okell and Elliott's⁽¹²⁾ study also reported that a transitory bacteremia developed about 75%, and the major organism was streptococci. Periodontal disease acts as an important potential focus of infection. Besides infected periapical lesions and periodontal diseases, Robinson, Kraus, Lazansky⁽¹³⁾ and Rodofsky's article for the extraction movement during exodontia may force microorganisms from the gingival crevice into the capillaries of the tooth has well been known. Maclean⁽¹⁴⁾ et al reports the above theory as the same. Besides the above articles, more recently, Dachi and Howell⁽¹⁵⁾ reported retained roots. as focus of infection. Too frequently, edantulous areas of infection may constitute an important focus of Infection. These lesions are fairly well protected by the alveolar process from the trauma associated with chewing. Practical proof on this dissemination of microorganism from the periapical lesion is lacking. Anyhow, the oral foci of infection may play an important role in many patients. Dental foci in rheumatoid arthritis had been minimized by the study of Cecil and Angevine⁽¹⁶⁾. But the dentists opinion on this problems are of much different i. e. 85% of interrelation between exodontia and rheumatic arthritis. Whether or not dental infection plays a causative role, adequate dental treatment is desirable from the stand point of good oral hygiene. And so, the author believes as the Spaethe⁽¹⁷⁾ as intraocular treatment or extraocular treatment should accompany dental procedure. The characteristic clinical signs and symptoms of uveitis had well been described by Hogan⁽¹⁸⁾ et al. It's diagnosis is in ophthalmologists sphere. Treatment had been performed by removal of inflammation that are general and specific measure by Dr. Park S.H. M.D., M.S. and the author.

The author's observation in relation to eye lesion and oral foci coincide with the Spaeths⁽¹⁹⁾. Numeral controvesy can be told. But the removal of oral foci had cured the eye disease according to focal Infection. Many authorities say "Our problem in dental procedures relates more to systemic than local"

CASE REPORT

A 25 year old korean woman was admitted to the infirmary, college of dentistry. Seoul National University, on February 24. 1972, with bilateral uveitis by referral of Dr. Park, S.H., Ophthalmologist of S.N.U. Hospital, to the author.

1. Chief Complaint.

This female came to the dental clinic with a complain of uveitis on the bilateral eyes. Owing to eye disease, she complains of unrecognizable relation between oph thal- mic dept. and dentistry with no significant oral problem.

2. Past History.

Race: Korean

Occupation: None.

Birth place: Kang won do, Korea

Her both eyes had been treated by ophthalmic department of Seoul National Unive- rsity Hospital for 6 months.

3. Present Illness.:None

4. Clinical Examination.

Examination by visual method with 7 and 17 explorer and No. 5 plain mirror showed non significant oral foci except root remnant of upper left 2nd premolar, proximal caries of upper right canine, palpation of submental and submandibular lymph nodes are within normal limits. Tongue also represents normal feagures except slight hyp- erplasia of filiforme papillae with grooving.

Calculus and debries are measured as fair (Oral Hygiene index by WHO criteria). Hard palate, mouth flour soft palate appears with no significant changes. and mouth flour was the same. Temporomandibular joint functions normal to subluxated state by stethoscope. Interdental space, food impaction were not found at posterior region. Gland function were within normal limits.

Salivary flow was not checked, but it was slopy. Any halitosis was not detected on the oral examination. Only upper anterior papillary gingivae appears slight scarlet in color and dark red in upper left 2nd premolar area.

5. Laboratory Examination.

Complete Blood count showed: Serology Negative (Specific), Hemoglobin 10.28gm, Hematocrit 42%, Red Blood Cells 4280000, White Blood Cells 9380, Bend form neutrophile 1%, ESR 19mm/h. Segmented form 58%, Lymphocyte 33%, Monocyte 4%, Eosinophile 4% Basophile 0%. Urinalysis showed; specific gravity 1,020, color yellow, Albumine (-), Sugar (-), pH 9.3, Sulkowitch test showed(-), All of the labor atory data were within normal limits, except slight elevation of erythrocyte sedimentation rate and moderate elevation of leukocyte number.

6. Radiographic Examination.

Roentgen examination of the upper right canine showed a typical apical granuloma of the root apex and slight alveolar bone resorption initiation (Horizontal).

7. Histo-pathologic Report.

The section consisted of collagenated fibrous connective tissue is most predominant on the periphery and bundles of collagen become condensed. New capillaries are usually lined by swollen endothelial cells.

8. Treatment.

1) 1st visit. the authour had performed oral prophylactic measure and odered mouth gargle solution (Rubya-S)

2) 2nd visit.

Extraction of upper left 2nd premolar (Root Rest) and right canine were performed.

Medication: P_x 1. LM. 600mg
2. Kimoral 4,000,000I.U. } # 4, for 2 days.
3. ASA 4.0gm

Cold pack 1/2 hr on and 1/2 hr off.

3) 3rd Visit.

Stitch out the suture and mouth Irrigation with dressing was performed. The patient complains insomnia, so the phenoharbital sodium(25mg,HS,PRN) was ordered.

4) 4th Visit. (after 12 days)

Oral healing progressed very rapidly, and eye complain decreased abruptly. The day dressing was done.

5) 5th Visit. (After 20 days)

Ophthalmic diagnosis was performed. The results were W. N. L.

9. Comments

Eye lesion heals partially after eleven days of oral treatment. Many clinical and raboratory studies have stressed the significances of diseases of the oral cavity i.e. By Molt,⁽²¹⁾ retained root fragments or residual areas of infection may constitute an important focus of Infection. Then, The carvernous sinus acts as a major route referal by many anatomist as Pace⁽²²⁾ et.al.

By so many authorities,^(19 20 21 21) there is an anatomical feature that facilitates the spread of infection to the cavernous sinus. these are:

① the absence of valves in the veins of the face makes it possible for the venous

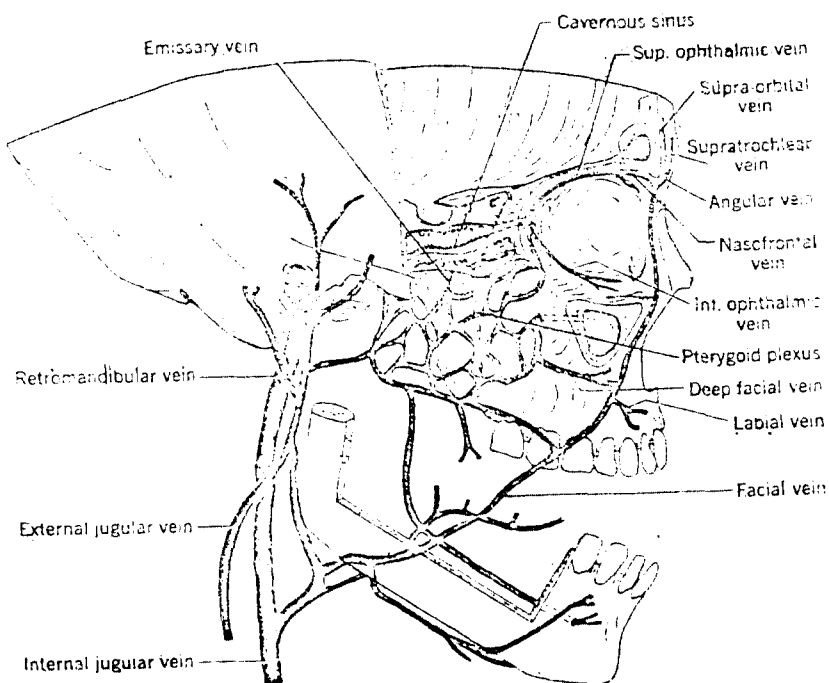


Figure 1 shows the communications of the facial vein and pterygoid plexus with the cavernous sinus.

blood to flow in either direction, toward the neck and the internal jugular vein or in the opposite direction toward the beginning of the facial vein at the inner angle of the eye.

- ② Communication of the angular vein, often called the nasofrontal vein.
- ③ The muscles of facial expression are located in the subcutaneous tissue intimately connected with the skin and lacking of facial septa.
- ④ The pharyngeal and pterygoid plexuses communicate with the cavernous sinus by way of emissary veins that pass through the foramen ovale and adjacent foramina. (Fig- I)
- ⑤ Pterygoid plexus also anastomoses with the inferior ophthalmic vein by a vein traversing the inferior orbital fissure, the inferior ophthalmic vein being a direct or indirect tributary of the cavernous.
- ⑥ cavernous sinus is lacking of amuscular coating and it differs from other dural sinuses in that it is traversed by numerous trabecular. By pace,²²⁾ this arrangement also make it quite liable to thrombosis.
- ⑦ The right and left cavernous sinuses are connected by anterior and posterior intracavernous sinuses which may readily spread the infection from one sinus to the other.

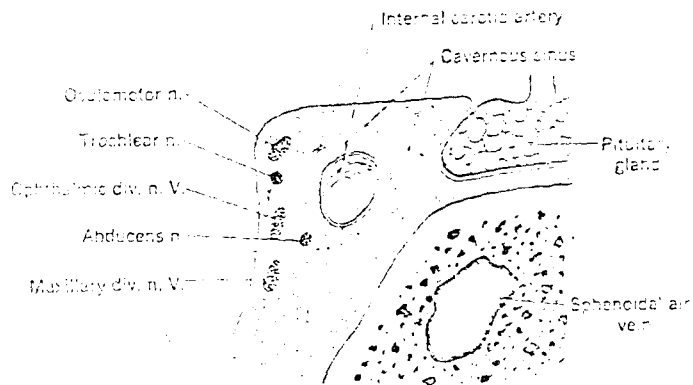


Figure 2 depicts a cross-section of the right cavernous sinus showing its important nerve and arterial contents.

- ⑧ Embedded in lateral wall of cavernous sinus are the oculomotor, trochlear, and 1st and 2nd divisions of the trigeminal nerve, while the internal carotid artery with its sympathetic plexus and the abducens nerve course through its lumen (Fig-2).

10. Conclusion.

This case was typical treatment method of uveitis through removal of original focus. (a case of original focus.) A case of uveitis treated by removal of oral foci can be explained by focal Infection theory. It is authors regret to present only one case with relatively short follow-up period.

- 1) Serial tracing by radio-isotope study may be effective for the detection of the pathway. (Krogh and Pace) Molt and Cook's report of retained roots was the same pathway.
- 2) Changing of medication or preceding dental treatment is desirable.
- 3) Good prognosis is predicted through combined method of medical and dental practice.
- 4) Cessation of medical Treatment for a time and then initiation of dental Treatment is desirable for the study of focal Infection theory.
- 5) In this case report, that combined use of antibiotics and oral caustics (for mouth gargle) were as the same treatment of ophthalmology was a questionable problem between both department.

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