

Thiamin and Riboflavin Therapy Indicated Etiology of Pterygium

Benjamin Yuehtung Lee^{1*} and Julia H Bai²

¹Retiree, Section of Biochemical Genetics/Pediatrics/Louisiana State University Health Sciences Center, USA

²Master Program Student of Epidemiology, Texas A & M University, TX, USA

***Corresponding Author:** Benjamin Yuehtung Lee, Retiree, Section of Biochemical Genetics/Pediatrics/Louisiana State University Health Sciences Center, USA.

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Abstract

Overt nasal pterigia were very common among prolonged arduous laborers with hunger. Its occurrence was about 30% and the involvement of corneas, about 5%, as seen in a labor farm. As the control, pterigia were less than 3% among poor farmers and urban physical laborers and their corneal involvement was extremely rare. Owing to the destitution of medicine, low dosage therapeutic trials were done only to a few cases for eradicating their corneal involvements, not the whole pterigia. The results indicated that in a regular medical service, large dose of thiamin and riboflavin should definitely eradicate the pterigia regardless with corneal involvement or not. Therefore, its etiology of vitamin B deficiency can be suggested before the confirmation with more cases.

Keywords: Pterigia; Riboflavin Deficiency; Thiamin Deficiency

Introduction

Tissue enlargement and benign masses were very commonly found among slavery laborers with prolonged hard labor and inadequate food, such as salivary glands, cartilage, and lymph nodes. The enlarged tissues or organs were often became pathologic lesions curable with B vitamins as observed in a labor farm, 1958 - 1962. For example, submandibular gland cyst, Baker's cyst, and lipoma were dramatically eradicated after intra-mass thiamin, while osteosarcoma. Drastically reduced in volume after local subcutaneous infusion of thiamin. Pterygium were also very common and often involving the cornea, therefore, it became the target of health care although medicine was very destitute in the labor farm.

Case Study

Bilateral pterigia were common clinical features of the laborers. Regularly, pterigia from the temporal sides were very thin, poorly outlined, and no sharp or invading apex involving the corneas. The tongue-like, elongated triangular pterigia from the nasal sides were much thicker, well outlined, darker, and were found in 30% of the laborers. In about 5% of cases with pterygium, the nasal pterigia reached or invaded onto the corneas. Malnutrition, especially riboflavin and thiamin deficiencies, should be considered as the etiology of pterygium because:

- a. Overt pterygium was very common among the slavery laborers with high occurrence as mentioned above. And its involvement of the cornea was also very common among them about 5%, while among the poor farmers or urban laborers pterygium was less than 3% and their corneal involvement was extremely rare. Labor intensity and food quantity of the poor farmers were much better than those for the slavery laborers.

- b. Pterigia totally disappeared without medication after several months among hundreds of the released hard laborers. Their terribly arduous labor became easier and their diet became much better and well-balanced. After release but employed still in the camp.
- c. In two cases with advanced pterigia of nasal side, which invaded onto the corneas for about 2 mm, daily 200 ml of home made yeast liquid was given for one month. The apexes of their invasive pterigia retracted back about 2 mm away from the corneas, and thereby surgical intervention was prevented. No further trial was held to eradicate the whole pterigia owing to the limited amount of liquid yeast and medical destitution especially for patients with chronic diseases of non-life threatening, and high occurrence. Home made liquid yeast was fermented with crude extract of sugar from beet.
- d. Another two cases suffered from severe cheilosis, angular stomatitis, zonal congestion immediately surrounding the corneas, palpitation, leg muscle cramp, and the apexes of the nasal elongated pterigia touched their corneas. Riboflavin 15 mg and thiamin 30 mg three times a day were treated for 10 days. The above signs were greatly improved. The apexes of the nasal pterigia retracted back about 3 mm away from the corneas.

Discussion

1. It seemed that pterigia became prevalent or severe during snow-covering seasons because the sunlight might be detrimental to the eyes as suggested by some authors [1,2]. It is true, however, solar exposure might be only a risk or contribution factor, not the basic etiology, because pterigia were also prevalent among laborers who worked inside the room everyday such as tailors and beet sugar manufacture laborers in that farm.
2. The minimal amounts of vitamin B or yeast used in the above cases was to protect the cornea not to eradicate the whole pterigia. In a regular medical service, pterigia should be treated with parenteral thiamin 200 mg and riboflavin 10 mg twice or trice daily for about 1 or 2 weeks. Definitely, pterigia would be totally eliminated regardless cornea invaded or not, thereby, its etiology of vitamin B deficiency would be confirmed with more cases.
3. Pterygium is not a normal structure of the eye. Its presence in the malnourished indicates that nutritional deficiency may be the basis or etiology of pterygium. Some abnormal growths including cysts, benign tumor, and osteosarcoma had been described also closely related to thiamin deficiency mention above [3]. This is the reason why to suggest that pterigia were caused by vitamin B deficiency before confirmed with more cases.

Conclusion

Thiamin and riboflavin deficiencies should be the etiology of pterygium because their minimal amounts could cancel the corneal involvement. And the occurrence of pterygium was parallelistic with the severity of malnutrition. Once malnutrition was changed to well-balanced diets, pterygium spontaneously disappeared without medication within half a year.

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