

# A NONSURGICAL TREATMENT OF OPACITIES OF THE LENS AND OF THE CORNEA<sup>1</sup>

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For some time ophthalmologists have been seeking a method to treat opacities of the lens and of the cornea of the eye, commonly called cataracts and nebulae respectively. Surgical treatment has been somewhat successful and at the present time it is the principal method in use by the ophthalmologist.

As the Cataract Institute of South Kortright, New York, points out, the hazards associated with surgical removal of cataracts are numerous. They are important from both the physiological and economic standpoints. Since the incidence of cataracts is high, an increasingly urgent call is being placed upon researchers to develop non-surgical methods of effectively treating these opacities which obstruct the passage of light waves into the eye, ultimately causing varying degrees of blindness.

Experimental work was begun in 1952 with the purpose of making detailed studies of the effects of a specific plant extract on cataracts and nebulae of dogs and man.

The plant used for the treatment is *Sedum praealtum*. The method employed at present in treating an opacity is by direct application of the liquid content of the leaf of the plant.

Actual experimentation began in Guatemala City, Guatemala. With the help of Dr. Mariano Pacheco, former Secretary of Agriculture of the Republic of Guatemala, an abundant source of the plant was made available. With Dr. Pacheco's assistance the plant was keyed and confirmed as *Sedum praealtum* or "Santa Apolonia" as it is commonly called in Central America, its native habitat. Santa Apolonia is well known among the Indians of Guatemala for its "medicine juice" as they call it. Indeed, it was among these people that the application of the liquid content from the *Sedum* leaf to opacities of the eye, as well as inflammations occurring around the mouth, was first witnessed. Consequently, the first knowledge obtained about the properties of the plant was supplied by the very Indians who have used it as a medicine for many years. Much of their information seemed fundamentally superstitious. On the other hand, some of the facts learned from them were scientifically significant.

Since the author himself is a native of Guatemala, time and time again he has observed the crude Indian method of crushing the leaves of Santa Apolonia and applying the "juice" directly in the eye of one of their kind who bore an opacity of the eye or "pterygion" as they call it. Likewise, numerous times the author has personally observed the total recession of the opaqued tissues. It is important to bear in mind that there appears to be no tendency for the opacities to reappear after treatment with this substance the Indians call "eye medicine."

After careful examination of considerable evidence provided by the natives themselves and after an extensive study of the method employed by these people, a plan of treatment was formulated for applying this cure to eye opacities in dogs. Opacities of the lens and of the cornea were found to be quite common in Guatemala both in dogs and man.

The first case to which the treatment was applied was a three year old hound dog in which an outgrowth of tissue from the conjunctiva of the medial portion of the right eye covered approximately one-fourth of the surface of the cornea.

<sup>1</sup>This report represents a portion of the work done for a Master's thesis, under the supervision of Dr. Everett C. Myers, at Bowling Green State University.

The vision of the right eye up to this point was apparently not seriously impaired by the opaque tissue. The left eye was normal. The *Sedum* leaf-extract was placed directly on the eye surface, using 0.05 cc as a daily treatment. After the fourth day of treatment the abnormal growth began to recede with no irritation of the eye observable. After the eighth day of treatment the opacity had almost completely disappeared from the surface of the cornea. After ten days, recession of the opacity was complete with no subsequent irritation effects noted. Visibility in the eye appeared to be essentially the same as before the treatment. Monthly observations have revealed no return of the growth, or any abnormality as a result of the treatment.

Another case similar to the one mentioned, and likewise of a dog, was treated by the same method. In this case, recession of the opacity of the cornea was complete after thirteen days of treatment.

The most interesting case which followed was that of a dog one year of age. The right eye contained an opacity which seemingly involved one-third of the lens. Lacking suitable instruments at the time prevented the exact localization or depth of this clouded condition. The opacity appeared as a thin white cataract originating from the medial angle of the eye but not sufficiently extended to obliterate vision in the eye. The left eye however, was closed and completely opaque with the nebula covering the entire surface of the cornea—by nebula meaning a cloudy opacity of the cornea. There was no visibility in the left eye.

The same kind of treatment previously employed was used in this case, applying 0.05 cc of the *Sedum* leaf-extract on the surface of each eye daily. There was ample "running" of the eyes—meaning an abundant release of tears, following the application of each treatment. After the fourth treatment, the left eye opened but obviously still with no visibility. After the ninth day recession of the opacity of the right eye was noticeable with some suggestion of the nebula of the left eye beginning to clear. The fourteenth day revealed the cataract of the right eye almost completely cleared. The left eye was partly cleared of the nebula which was receding both medially and laterally. At this stage however, recession of the nebula revealed an opacity which seemingly involved one-half of the lens in addition to the opacity of the cornea. Here again, lack of suitable instruments prevented the exact localization or depth of the opacity. Suggestions of visibility returning were observed in the left eye after the fourteenth day.

After the seventeenth day, treatment of the right eye was complete. The opacity had completely disappeared leaving no noticeable irritation of the eye. After the twenty-ninth day the opacities of both the cornea and the lens of the left eye had receded completely. A slightly pink color of the eye noticed at this time may have been due to slight irritation of the eye due to the treatment, however, visibility of the eye appeared normal. Monthly observations up to the seventh month show normal vision in both eyes and no evidence of re-occurrence of the opacities. No irritation effects have been noticed caused by the treatment except the momentary release of tears immediately following the application of the plant juice.

The cases mentioned dealing with treatment of dogs were followed by treatment of opacities found in three women.

The first of the three was a woman of Mayan Indian descent, forty-nine years of age, employed as a cook in a boarding house in Guatemala City. The right eye in this case appeared normal while the left eye contained a cataract, the opacity covering approximately one-third of the surface of the lens. Total possibility that this cataract did not involve the inner surface of the cornea in whole or in part rather than the lens could not be ascertained with absolute certainty. Visibility was not impaired by the opacity although the patient claimed the left eye bothered her when she worked more than ten hours a day in a kitchen with poor lighting.

The same treatment was applied to this patient; 0.05 cc. of the *Sedum* leaf-extract applied directly to the eye surface daily. After the first application, the patient claimed a slight burning sensation. There was an abundant release of tears from the eye after treatment was administered. After the eighth treatment, the cataract showed evidence of beginning to recede. After the eleventh treatment the opacity appeared thinner and clearing. After the fifteenth day, more than one-half of the opacity had receded. The patient made no further complaints, apparently accustomed to the treatment. After the twenty-fourth treatment, the opacity seemed clear and treatment ceased two days later. The patient claimed the eye felt slightly irritated compared to the right eye. Monthly observations up to the sixth month has shown normal vision in the eye, no further irritation or other after effects and most important, no return of the cataract.

Two other cases followed the one just discussed. Both were in women over forty years of age. In both of these cases, the opacity was a nebula not covering the cornea enough to impair visibility. The standard treatment was employed with successful results in both cases. In one, fourteen treatments were necessary to clear the opacity while the other required seventeen. Both cases have been kept under observation and in neither has there been any irritable effects or re-occurrence of the opacity reported, the vision in both women remaining normal.

Other cases in dogs are undergoing treatment in Bowling Green State University at the present time and chemical analyses of the *Sedum* leaf-extract are in progress.

Recent information obtained from Guatemala City, indicates than an African plant of the same family as *Sedum* is suspected of also having the same property to treat such cases as the ones discussed. This plant and its properties is also under investigation at Bowling Green State University.

As was previously stated, much of the research on this problem is presently in progress with the major portion still to be undertaken. However, it is felt that the results obtained thus far are of sufficient significance to warrant submitting this preview report to inform interested persons of the research in progress.

#### SUMMARY

A nonsurgical treatment of opacities of the lens and of the cornea of the eye is reported. The method presently employed is by applying 0.05 cc of *Sedum praealtum* leaf-extract on the surface of the eye. Significant results are: a complete recession of the opacity, no serious subsequent irritation due to the treatment and most important, no observable tendency for the opacity to re-occur.

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