

Ophthalmic contributions of Raja Serfoji II (1798–1832)

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Purpose: To investigate and describe the ophthalmic contribution of Raja Serfoji II (1798-1832). **Materials and Method:** A team of 2 ophthalmologists, director of laboratory services, one archeologist and a photographer visited Sarasvathi Mahal Library, March 2004. Photographs of ophthalmic records were taken and analysed. An interview of the present prince, S Babaji Rajah Bhonsle was taken. Ophthalmologic case sheets of 44 patients, 18 pictures were found. **Results:** Forty-four patient's ophthalmic records were found. Six records were written in Modi script, 38 were written in English and 18 drawings were found. **Conclusion:** In Thanjavur, King Serfoji II carried out methodical ophthalmic practices between 1798 and 1832. Both European and Indian medicines were used. Cataract Surgery was performed. Detailed ophthalmic records were maintained. The only evidence of Serfoji's amazing contribution to medicine lies in 50 charts and manuscripts.

Key words: Amaurosis, amaurosis hemianopia, capsulolenticular cataract, conjunctiva, lenticular cataract, leukoma, eye lid, ophthalmia chronica, ophthalmic purulentis

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Thanjavur contains over 90 temples, as it was ruled by the Cholas between the 1st and the 12th centuries, the Nayakas in the 16th century, and the Marathas in the 17th and 18th centuries.^[1] Thanjavur is a cultural citadel of Tamil Nadu for thousands of years. Chhatrapati Shivaji's half brother Venkoji founded the Thanjavur Maratha dynasty in 1675. Serfoji II was the 10th ruler from Venkoji. King Serfoji II was born on September 24, 1777. He ruled between 1798 and 1832. He was a scholar, philosopher, and humanist. Serfoji established Dhanvantari Mahal, a hospital that took care of patients of all specialties, a research institute, which produced herbal medicine for humans and animals.

Materials and Methods

A team of two ophthalmologists, the director of laboratory services, one archeologist and a photographer visited the Sarasvathi Mahal Library, in March 2004. Photographs of ophthalmic records were taken and analyzed. An interview of the present prince, S Babaji Rajah Bhonsle was taken. Ophthalmologic case sheets of 44 patients and 18 pictures were found.

Raja Serfoji had interest in art, culture, education, science and technology, and music and dance. Serfoji had a collection of bronze statues kept in an art gallery. His contribution toward medical field was extraordinary. Available Modi scripts indicate that Raja Serfoji II had physicians to treat and dispense Ayurvedic, Unani, and allopathic medicines.

In the place called Dhanvantari Mahal, medicines of Siddha, Ayurveda, and Unani were produced. Herbal gardens were

maintained and also detailed case sheets were maintained in the dispensary. He also published many books on various diseases and methods to cure those problems. He has published books on surgical equipments, which is necessary for surgical procedures.

A book on various health problems compiled as "Sarabhendra Vaidhya System" and published by King Serfoji is one among the best. This book dealt with several diseases, such as Garbhini Bala Roga (Diseases of pregnant women and children), Nayana Roga (Diseases of the eye), Vata Roga (Diseases of nerves and joints), Gunma Roga (Stomach trouble), Nirizhivu (Diabetics and other urinary diseases), Visha Vaidhyam (Poisonous bites and drugs), Kshaya Rogam (Asthma, cough, and so on), Janni Rogam (Delirium), and Pandu Kamalai (Anemia and jaundice).

King Serfoji also built a pharmaceutical godown, Aoushadha Kothari, where pharmaceutical products were stored. On a pilgrimage to Kasi (Benaras), the King took with him 8 boxes full of medicines and 1 box full of medical instruments to do surgery.

Serfoji took special care to treat eye ailments. It is said that the king himself was an expert in treating eye diseases and in performing cataract operations. An English Ophthalmologist Dr McBean, was attached to the Dhanvantari Mahal. Dr T S Amrithalingam Pillai also assisted in ophthalmic treatment.

Results

Ophthalmic records forty four patients were found. The age of the patients ranged from 5 to 60 years. Six records were written in Modi script, 38 in English and 18 drawings were found. Ophthalmic terminology used was lid, conjunctiva, cornea, lens, lens capsule, posterior chamber and so on. Various diagnosis was made ophthalmic purulentis, lenticular cataract, capsulolenticular cataract, leukoma, amaurosis, amaurosis hemianopia, and ophthalmia chronica. Various medical treatments comprising European and Indian medicines were used. Cataract probably by couching was done. Leeches were

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applied over the eyes to reduce congestion and inflammation. Number of leeches applied and the duration (in days) were also mentioned. Treatment was given based on medical and surgical procedures. In Indian medications, Castor oil, Rhubarb powder, Indigenous "blue pill," and Leeches were used, whereas in European medications, Silver nitrate, Solution of belladonna, Peppermint water, Chalk powder, and Tincture of hyoscine were used.

Following treatment or surgery, vision was recorded in the form of "improved" or "same." Patients were paid rupees 2 as "inam" (reward) at the time of discharge. There were colored drawings of the patients of leukoma, spring cataracts, corneal ulcer (pre- and post-treatment), pterygium, cataract (both eyes) ophthalmia purulents, growth on the limbus, proptosis, and bilateral aphakia. A case of a 15 year old patient is documented on Aug 20, 1827 and is diagnosed with ophthalmia purulents it is noted that the patient had great inflammation of the palpebral and sclerotic conjunctiva with considerable watery and mucous discharge from the left eye (probably mucopurulent conjunctivitis). Twelve leeches were applied. Some lotion was applied on the neck (Emp. Lytta). Compound of Jalap Powder was used and belladonna was applied over the eyes. The patient

felt better. However, there was still pain in the eye with much watering. Six leeches were applied over the left temporal region. Silver nitrate solution was applied again. Pain was completely gone. The patient was discharged after complete recovery.

In a 45-year-old patient who had lenticular cataract of 6 months duration, on September 9, 1827, a needle was introduced, the nucleus of cataract was depressed below the pupil, and a part of the external layer was disengaged during the operation and remained in the pupil. There was much pain. So 4 leeches were applied and Purging powder was given. The patient improved after the operation. Absorption of lens occurred slowly. He was given blue pills at bed time. Additional 4 leeches were applied and the patient improved [Figs. 1-9].

Discussion

To King Serfoji goes the credit for the encouragement of research in his medical institution called "Dhanvantari Mahal." He is said to have appointed many Siddha, Ayurveda, and Unani physicians of repute not only from India but from foreign countries also. The institution also has a separate research department for Animal Husbandry. Many drugs tested for their



Figure 1: Photograph of Raja Serfoji II



Figure 2: Photograph showing the team who took part in collection of Raja Serfoji's contribution to ophthalmology

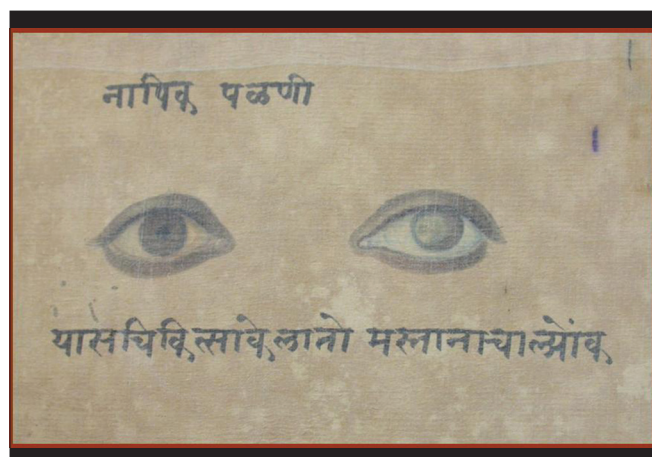


Figure 3: Clinical photograph showing a case of leucoma

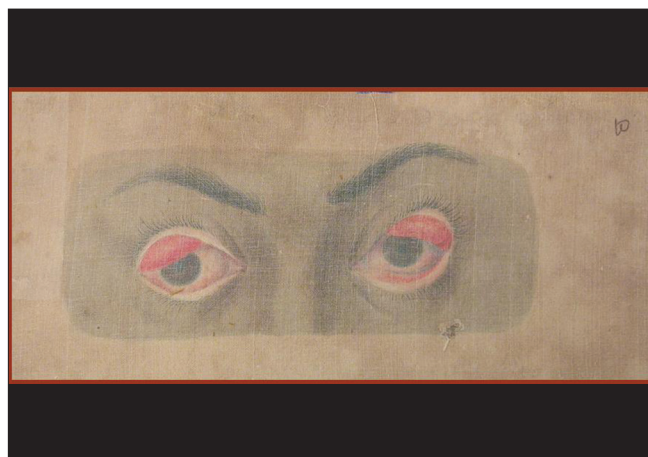


Figure 4: Clinical photograph showing a case of spring catarrh

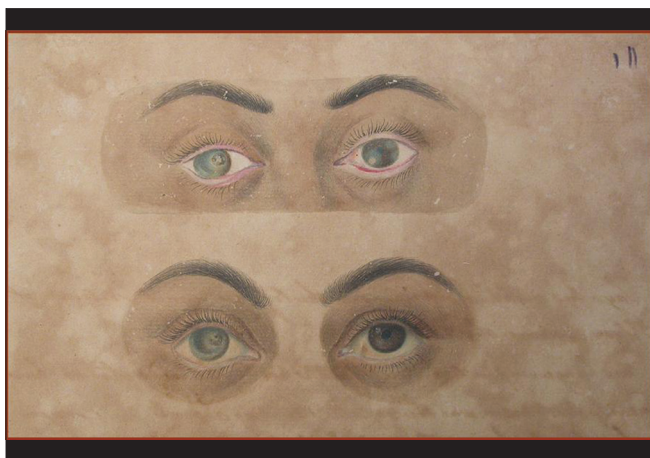


Figure 5: Clinical photograph showing a case of corneal ulcer (Pre and Post Treatment)

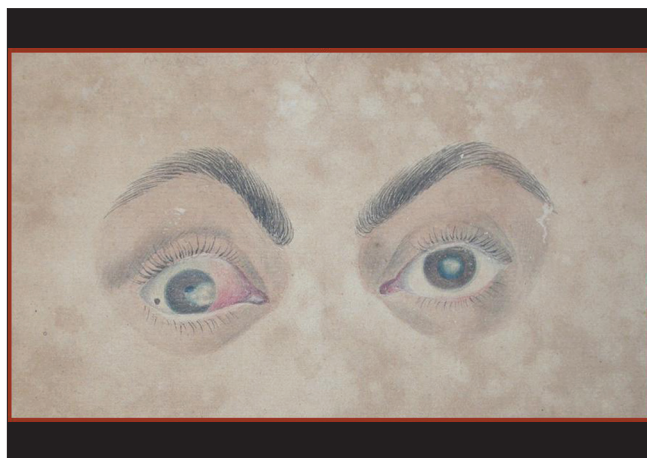


Figure 6: Clinical photograph showing a case of pterygium

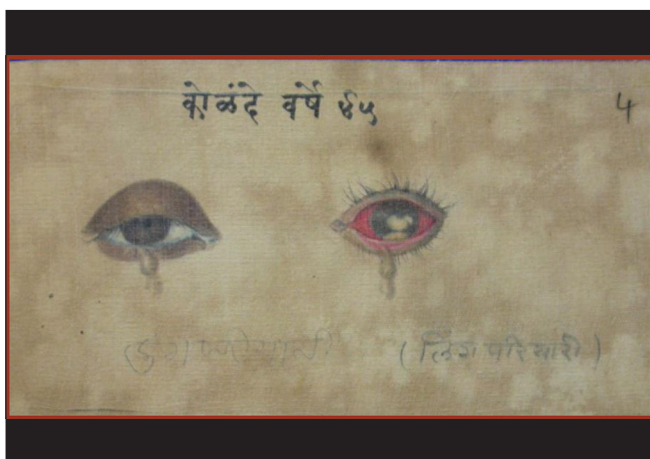


Figure 7: Clinical photograph showing ophthalmic purulentis

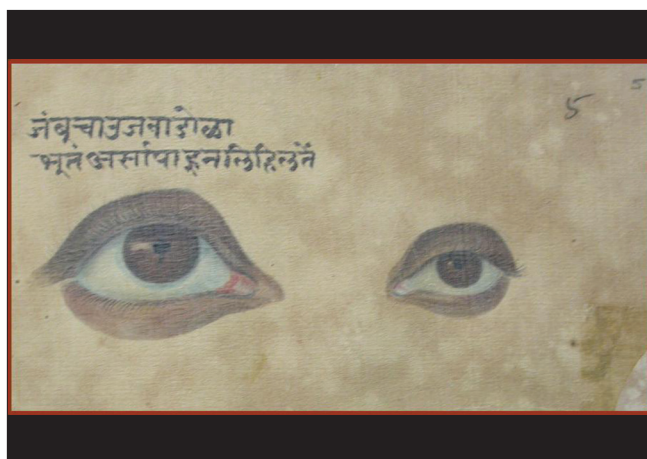


Figure 8: Clinical photograph showing a case of proptosis



Figure 9: Photograph showing preparation and composition of blue pills

curative efficacy were the resultant features of the successful attempts of the discoveries and experimentation by these doctors. These have been recorded in a series of works in Tamil called “Sarabhendra Vaidhya Muraigal.”^[2,3]

Conclusion

In Thanjavur, King Serfoji II carried out methodical ophthalmic practices between 1798 and 1832. Both European and Indian medicines were used. Cataract surgery was performed. Detailed ophthalmic records were maintained. The only evidence of Serfoji’s amazing contribution to medicine lies in 50 charts and manuscripts. They contain handwritten case histories (38 of these written in English) of the patients operated by King Serfoji. Starting with the diagnosis of the disease, these records contain minute personal details of the patients. He may have sought no recognition or won no awards, but if one can find the time and pause to consider the vastness of his humanitarian efforts, one will understand the magnitude of his achievement. This could be found in the simplest of his actions.

Acknowledgments

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 7. Mr. Padmanabhan, Driver, Sankara Nethralaya, Chennai
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