Case report

An integrative approach to panuveitis- A case report

K. Shanti[1], Gopinathan G.[2]

[1]Department of Shalakya Tantra, Amrita School of Ayurveda, Kollam, Kerala, India
[2]Government Ayurveda Hospital, Kannur, Kerala, India

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Corresponding author: **K. Shanti.** Email: shaansyam@gmail.com

ABSTRACT

Uveitis is one of the major causes of blindness in the world. The International Uveitis Study Group (IUSG) defines panuveitis as a generalized inflammation of all three uveal organs (iris, ciliary body, and vitreous humour) based on anatomical location. The standard line of management of panuveitis involves the use of Immunosuppressive drugs, steroid therapy and NSAIDs. We describe how an integrative approach can help a patient with bilateral panuveitis become less dependent on immunosuppressive medications. A 55-year-old female, diagnosed with bilateral panuveitis sought Ayurvedic treatment after being dependent on steroids for 3 years. She was managed with internal medicines and external therapies for 4 years. During quarterly follow ups in this time, her immunosuppressive drugs, DMARD and NSAID were all gradually tapered and withdrawn. The frequency of acute phases of the disease was considerably reduced and her vision markedly improved to normalcy. There was also significant improvement in her overall health status. Integration of Ayurveda with the conventional treatment can reduce the dependence on immunosuppressive drugs and also improve the quality of life of the patient.

Keywords: *Adhimantha*; panuveitis; immunosuppressive therapy.

INTRODUCTION

The inflammation of the iris, ciliary body, vitreous, retina, or choroid is defined as Uveitis. Its incidence is 10.5 –52/100,000 person–years and the prevalence is 38–284/100,000 persons. It is responsible for 5% of legal blindness cases (central visual acuity of 6/60 or less in the better eye), mainly due to macular oedema, ocular hypertension, or retinal ischemia (1). Inflammation of the iris is termed as anterior uveitis, which of the ciliary body, vitreous and choroid as intermediate and posterior uveitis respectively. It is called panuveitis when all these parts of the uvea are collectively involved.

Uveitis is a potentially sight threatening disease. It could be the result of an autoimmune aetiology or an infection. Infectious uveitis are treated with specific antimicrobial medications, either with or without corticosteroids. Numerous medications are accessible for the treatment of non-infectious uveitis, such as immunosuppressive medicines, corticosteroids, and more recently, biologics (2). Corticosteroids have adverse effects when used for extended periods of time, and most patients are worried about these effects. Anxiety and stress are also significant contributors to the disease's progression (3).

Symptoms such as *ragata* (redness), *srava* (watering), *Manthanavat vedana* (eye ache) and *shopha* (chemosis) were all indicative of the involvement of *kapha, pitta* and *vata doshas* according to Ayurveda. Hence, it was diagnosed as *kapha pradhana tridosaja adhimantha* (4).

The effectiveness of ayurvedic treatments in the treatment of panuveitis has not yet been established via clinical research. In this case study, we highlight the potential benefits of an integrated approach that includes Ayurveda and lessens the need for corticosteroids in a middle-aged patient who has been diagnosed with bilateral panuveitis. In the absence of bigger clinical studies, reporting such clinical outcomes may serve to create preliminary data that can help in understanding the function of Ayurvedic therapies in the management of panuveitis.

Patient information

A 55-year-old female Bengaluru resident, presented at our hospital in Kollam, Kerala, India seeking Ayurvedic treatment for her complaints.

She presented with the symptoms of blurred vision and mildly painful red eyes for 3 years. Although under medication and with her vision not improving much she sought ayurvedic treatment, in the hope of reducing dependency on these medications and if possible to withdraw them completely.

Her family history was negative for any ocular diseases. She reported anxiety due to frequent acute phases of the disease and constant pain and redness in the eyes. She was also concerned about dependency on corticosteroids. The patient developed redness in the eyes and consulted an ophthalmologist in 2016. He diagnosed it as conjunctivitis and prescribed her antibiotics. But when the symptoms did not subside, she was then after a series of blood tests and examinations, diagnosed with bilateral panuveitis and put on immunosuppressive and steroid therapy. She was non-diabetic and non-hypertensive and was not under medication for any other disease.

Clinical findings

The best corrected visual acuity (BCVA) was 6/18 (OD) and 6/12 (OS). Applanation tension was 20 mmHg (OD) and 19 mmHg (OS). Slit lamp examination was negative for any inflammatory signs in the cornea, anterior chamber or the iris. However, there was conjunctival injection of the grade 1.

A general check-up indicated that the patient's appetite and bowel habits were normal. Her vitals and evaluation of other systems were within normal limits.

Rogi pariksha (examination of the patient)- patient with *kapha pitta prakriti*, *alpa upalipta jihwa* (slightly coated tongue), *pittaja nadi*, *madhyama koshta* (unconstipated bowel movements), normal *shabda* and *sparsha* presented with *Raga yukta aavila darshana* (blurred vision associated with red eyes.

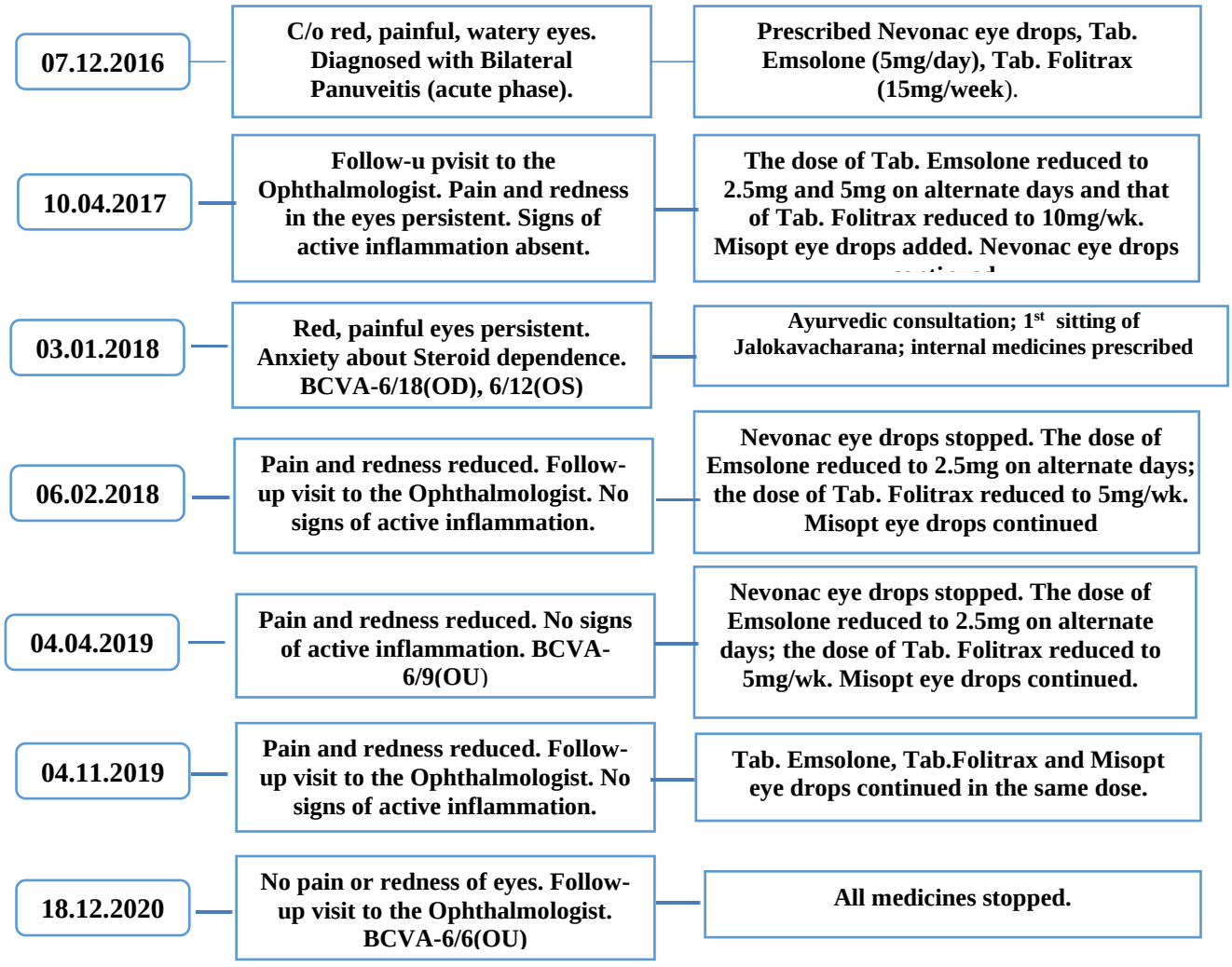
Diagnostic assessment

Lab investigations- Erythrocyte Sedimentation Rate (ESR) was found to be 40 mm/hr. Fundus examination revealed the signs of resolving inflammation in the vitreous and no signs of an active inflammation in the retina. Optic Coherence Tomography (OCT) showed no signs of an active inflammation. The treating ophthalmologist had already verified the diagnosis of bilateral panuveitis. To validate the diagnosis, we examined the relevant data and performed a clinical evaluation on the patient. Previous OCT and FFA reports, taken at the time of onset of the first acute phase of the disease, confirmed it to be panuveitis.

We evaluated the likely ayurvedic diagnosis as *Sirotpata*, *Pittaja abhishyanda and Tridosaja adhimantha*. The symptom *Manthanavat vedana* (aching pain) in *Shankha*, *akshi*, *bhru* and *lalata pradesha* (temples, eyes, eyebrows and forehead) differentiated it from *Sirotpata* and the absence of symptoms like *Rakta ashru* (bleeding lacrimation) and *Rakta mandala darshana* (intraocular bleeding) differentiated it from *Pittaja abhishyanda*.

The prognostic outlook of patients with panuveitis is variable. Most patients become dependent on corticosteroids, as was the case with this patient. In spite of regular medication, she continued to get frequent acute phases of the disease and experienced constant red eyes, which affected her quality of life.

Timeline



Therapeutic intervention

At the time of Ayurvedic consultation, the patient was taking Tab. Emsolone (5mg and 2.5 mg) on alternate days, Tab.Methotrexate (10 mg) weekly, Nevonac eye drops and Misopt eye drops.

We prescribed the following medicines for 15 days:

1. *Tiktaka ghrita* (5)- 10 ml at bed time.
2. *Amritotaram Kashaya* (5) – 20 ml, mixed with 45 ml of warm water-twice daily.
3. *Tab.Higuvachad* (5) - 1 tab twice daily.
4. *Avipathi churna* (5) - 5gms with kashaya.
5. *Manjistadi kashaya*(5)- 20 ml, mixed with 45 ml of warm water-twice daily.
6. *Anu taila*(5)-5 drops in both nostrils- twice daily.
7. On the 3rd day, she underwent *Jalokavacharana* (leech therapy) in both eyes. From the 16th day onwards, she was prescribed *Anjana karma* (collyrium) with *Kana saindhavadi Anjana* (4), for the next 3 months. In the 4th month, two sittings of *Jalokavacharana* were done with a gap of 15 days. She was then prescribed-
8. *Guduchyadi Kashaya* (5)- 20 ml, mixed with 45ml of warm water-twice daily.
9. *Dadimashtaka churna* (5)- 1 tsp with kashaya.

After almost 2 years of starting the treatment, she had one episode of acute attack of uveitis, presenting with red painful eyes. She then underwent the following therapies-

(a) *Vidalaka* (application of medicated paste around the eyes) with *Mukkadi purambada* (6) -.

(b) *Aschotana* (medicated eye drops) with *Sigru pallava swarasa* (fresh juice of moringa leaves) mixed with honey- 2 drops twice daily.

However, as the acute symptoms subsided in 3 days, these therapies were then discontinued and the following internal medicines were prescribed for 15 days.

1. *Manjistadi Kashaya* (5)- 20 ml, mixed with 45 ml of warm water-twice daily.
2. *Tab.Triphala guggulu* (5)- 2 tablets with the kashaya.
3. *Pachanamritam kashaya*(5)- 20 ml, mixed with 45 ml of warm water-twice daily.

Later she underwent two more sittings of *Jalokavacharana* with a gap of 15 days.

Table 1: List of internal medicine with their possible effects

Sl. No.	Medicine	Dose	Possible effect
1.	*Amritotaram kashaya*	20 ml + 45 ml of warm water- Twice daily	*Ama pachana* (digests morbid matter)
2.	*Hinguvachadi gulika*	1tablet with *kashaya*-Twice daily	*Ama pachana* (digests morbid matter).
3.	*Tiktaka ghrita*	10 ml - after dinner	*Pitta kaphahara* (alleviates *pitta* and *kapha doshas*)
4.	*Avipathi churna*	5 gms- twice daily	*Pittahara* (alleviates p*itta dosha* of the body)
5.	*Manjistadi kashaya*	20 ml + 45 ml of warm water- Twice daily	*Rakta pradaka* (purifies *rakta*)
6.	*Guduchyadi kashaya*	20 ml + 45 ml of warm water- Twice daily	*Pittahara* (alleviates *pitta dosha)*
7.	*Dadimastaka churna*	10gms with butter milk-twice daily	*Ama pachana* (digests morbid matter).
8.	*Pachanamritam kashyaya*	20 ml + 45 ml of warm water- Twice daily	*Ama pachana* (digests morbid matter).
9.	*Triphala guggulu(500mg)*	2 tabs twice daily.	*Pitta kaphahara* (alleviates *pitta* and *kapha doshas*)

The order of internal medicines and their intended purpose is listed in Table 1. The subsequent order of treatments and their expected effects is enlisted in Table 2.

Table 2: List of treatments with their possible effects

Sl No.	Treatment	Dose	Possible effect
	Anutailam	5 drops	*Tridosha shamana*
	Vidalaka (application of medicated paste on the eye lids)	5g	*Shophahara shamana*
	Aschotana (eye drops)	2 drops	*Abhishyandahara*
	Anjana karma (application of collyrium)	2 drops	*-Tridosa shamana* *-Ropanam* (healing).

Table 3: List of diet & regimen followed by the patient

Sl No.	Diet	Regimen	Instructions
1.	Boiled rice gruel: Light food (easily digestible)	Sleep for 6 hours at night.	To be followed
2.	Green gram, rock salt, wheat.	Social relaxation with family and friends	
3.	Vegetables- beetroot, spinach, carrots, Amaranthus, ash gourd, pumpkin, cucumber.	Mild physical exercises.	

4.	Curd, fermented food, urad dal, chicken mutton, refrigerated food, cold drinks, aerated drinks.	Day sleep; Mental stress	To be avoided
5.	Sour fruits like grapes, oranges, lemon, passion fruit,	Use of electronic gadgets in the dark room.	

Diet and regimen: Diet regimen plays a vital role to bolster the effect of treatments. In this case, the patient was advised to avoid food that provoked *pitta* and *kapha* aggravated effects by nature. Food items that were spicy, sour, stale, fermented, junk food, cold, and frozen foods were to be avoided; a daily regimen of regular sleep times, usage of mobile phone at night, exposure to mid-day sun, and sleeping late at night - were advised to be avoided during the Ayurvedic treatment. She was told to follow a bland diet consisting of green beans, rice gruel, rock salt, and veggies like spinach, carrots, and beets. The diet and exercise regimen advised to the patient are shown in Table 3.

Follow up and outcomes

Assessment was done based on the OCT reports taken quarterly. One month follow-up to the Ophthalmologist after the start of Ayurvedic intervention, the OCT report revealed the absence of any inflammatory process in the vitreous or the retina. The patient also did not report any acute phase of inflammation. Her NSAID eye drops (Nevonac) were discontinued, the dose of Emsolone was tapered to 2.5 mg on alternate days and the dose of Methotrexate was tapered to 5 mg weekly. However, the anti-glaucoma drug, Misopt, was continued. The BCVA improved from 6/18 (OD) and 6/12 (OS) to 6/6 (OU) in 6 months and the OCT showed the absence of active inflammation and normal contour of both maculae. The applanation tension was recorded as 21mmHg (OU). In four years of Ayurvedic treatment, there was only one episode of acute attack of uveitis and was managed through Ayurvedic drugs. At the end of the fourth year of Ayurvedic treatment, the immunosuppressive and steroid therapies were withdrawn as there were no signs of inflammation. However, the Ayurvedic treatments were continued. A follow-up after 1 year of having stopped all the treatments, revealed completely normal anterior segment and no signs of inflammation in vitreous and retina.

The patient reported only one episode of acute inflammatory attack after the start of the Ayurvedic intervention. She was also relieved of the constant redness and pain in her eyes. As the doses of the immunosuppressive drugs were reduced, she was relieved of the anxiety about the dependency on them. The constant gastric irritation was alleviated after the start of Ayurvedic drugs.

The patient had gastric irritation ever since the intake of Methotrexate. She was initially unable to tolerate the store bought *kashayas*, probably due to the presence of preservatives in them. So, she was advised to prepare fresh *kashayas* every time. Otherwise, the patient had adhered to the entire treatment and dietary regimen.

No adverse events were reported during the entire course of the treatment. Intervention adherence and tolerability as well as adverse and unanticipated events were assessed by the interrogation of the patient.

DISCUSSION

Limitations

The Allopathic medications could not be completely weaned off after the first course of the treatment. Physical assessment could be done only once in three months. Preparing fresh Kashayas every time was a dreary task for the patient, though she adhered to it. In spite of taking steroid therapy, her vision did not improve and she had dull red eyes all the while. She became mentally frail and distraught as a result. This was another limitation in this case.

Strengths

The patient adhered strictly to the entire diet regimen as advised, which the major strength of this case was. The gradual tapering and eventually stopping of the immunosuppressive therapy relieved the patient of her anxiety.

Research on the role of Ayurveda in the treatment of panuveitis has not been published in any indexed or peer-reviewed journals. Descriptions about the eye disease *adhimantha* (an inflammatory eye disease) are available in *Ashtanga Hridaya* and *Sushrutha samhita.* The course of treatment for *adhimantha,* (an inflammatory eye disease) has been thoroughly explained in both of these texts and was referred to as the guideline for treating this patient. *Ama pachana* (digestion of the morbid matter), *Pitta kapha prashamana* (alleviation of *pitta* and *kapha* humours) and *Rakta prasadana* (rejuvenation of the blood component of the body) were the first targets of the treatment. It was followed by *rakta shodhana* (purification of the blood component of the body) and latter *drishti prasadana* (rejuvenation of the eyes).

The clinical presentation of panuveitis in this patient matched with that of *kapha pradhana tridoshaja adhimantha* (inflammatory eye disease involving all the three humours of the body, *kapha* in particular) according to Ayurveda. Symptoms like *srava* (lacrimation), *ragata* (redness), *shopha* (edema), *manthanavat vedana* (eye ache) were all suggestive of *tridosha* (all the three humours of the body) involvement leading to *Abhishyandatwa* (oozing of

fluids from the upper channels). Ayurvedic texts advocate *pachana* as the first line of treatment in such conditions. This was attained through *Amritotaram kashaya* and *Hinguvachadi gulika* and *Pachanamritam kashaya*. *Pitta shamana* (pacify *pitta*) and *Rakta prasadana* is the next thing to be done and was achieved through *Avipathi churna* and *Manjishtadi kashayam*. *Anu taila* helped to pacify all the *doshas* in their own places. *Rakta shuddhi* (purification of *rakta*) was attained through *Jalokavacharana*. *Triphala guggulu* along with treatments like *Vidalaka* (application of medicated paste on the eye lids) and *Aschotana* (eye drops) aided the control of inflammation in the acute stage. Strict adherence to the diet regimen was the key in preventing the relapse of the acute phase of the disease.

A marked improvement in visual acuity, prevention of acute inflammatory attacks, discontinuation of immunosuppressive therapy and overall improvement in the health status were all the most significant outcomes of the integrative approach in this case. Frequent attacks of acute inflammation and constant red eye were the most disturbing events during the first three years of onset of the disease which were relieved after the incorporation of Ayurvedic treatment. This implies the improvement in the ocular immunity of the patient. During the four years of integrative therapy, the acute inflammatory phase occurred just once and it was managed effectively with Ayurvedic medication. This is a clear indication of improved immunity in the patient. The gastric irritation that the patient experienced during the intake of Methotrexate was also relieved after the inclusion of Ayurvedic treatment. This enabled her to consume a good amount of nutritious food on a regular basis, thereby bringing about improvement in her overall health.

Primary take away lessons from this case report

Immunosuppressive medications can lead to reliance and adverse effects in people with chronic conditions such as panuveitis. Withdrawing these may result in a relapse of the illness. In addition to helping the patient stop taking immunosuppressive medications and improve their quality of life and clinical symptoms, this case study highlights the advantages of incorporating Ayurvedic treatment into regular medical practice.

CONCLUSION

When treating patients with panuveitis who have become chronically dependent on immunosuppressive therapy, integrative care should be taken into consideration. However, higher sample sizes in clinical trials will aid in producing more information concerning the possibility of Ayurvedic intervention in such cases.

CONFLICT OF INTEREST

None declared.

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