

TREATMENT OF TROPICAL EOSINOPHILIA WITH AN AYURVEDIC COMPOUND - A CLINICAL TRIAL

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Received July 30, 1982

Accepted November 15, 1982

ABSTRACT: The effect of an Ayurvedic preparation consisting of Swasakutara, *Curcuma longa* (Haridra) and *Withania somnifera* (Asvagandha) is assessed in 12 patients of tropical eosinophilia. The modern control drug Hetrazan is used in another batch of 11 patients for comparison. The Ayurvedic compound causes complete relief of most of the clinical signs and symptoms associated with the disease and reduces E.S.R. significantly. However the drug has no effect on the level of circulating eosinophils.

Introduction:-

Śwāsa means dyspnoea. It is a symptom. Swasaroga can be defined asthma, a term used for a syndrome characterised by paroxysmal attacks of dyspnoea of expiratory type.¹ In bronchial asthma and Tropical Eosinophilia, asthmatic signs are seen. Owing to this similarity some hold Tropical Eosinophilia as akin to Tamakaswasa. Tropical Eosinophilia starts only with dry cough, paroxysmal and nocturnal in nature, but as the disease advances dyspnoea, fever, loss of weight, haemoptysis etc. may develop. Prof. Upadyaya and others hold the view that tropical pulmonary eosinophilia falls under Kāsaroga especially rasaja vātika kāsa.² This seems nearer to the fact as the presenting symptom is dyspnoea followed by cough in śvāsaroga, whereas in Tropical Eosinophilia unproductive cough is followed by dyspnoea. Since unproductive cough is vātika, involvement of vata is suspected in Tropical Eosinophilia. But our earlier studies indicate involvement of kapha in Tropical Eosinophilia and vāta in bronchial asthma.³ Vataprakopa is of two types. One is due to dhatukshaya and the other due to obstruction of srotas.⁴ Perhaps in Tro-

pical Eosinophilia, srotorodha by Āma or Āmalike kapha is there, causing vātaprakopa leading to unproductive cough. The latest view of filarial aetiology of Tropical Eosinophilia⁵ only confirms the involvement of kapha causing srotorodha. The present day treatment of tropical eosinophilia is with diethyl carbamazine citrate which is equally effective as arsenic with the added advantages, that it is non-toxic, brings down the Eosinophilic count much more quickly than arsenic and there is very prompt symptomatic and clinical improvement; so much so there is no need to prescribe any anti-spasmodic drugs in the initial stages of treatment which can be hardly dispensed with while treating with arsenic. However, there are many cases which do not respond to the modern treatment specially in subsequent attacks. Taking these points into consideration, this study was carried out to see whether the Āyurvedic drugs may have some role to play in the treatment of this disease. Treatment of any disease, according to Āyurveda is only Samprāptivighātana i. e., the removal of causative factors. Therefore the treatment of tropical eosinophilia requires certain kaphahara drugs with

śwāsahara properties. The present study is only to find out the efficacy of an āyurvedic compound with a few drugs reported to be useful in tropical eosinophilia.

Methods and Materials:-

Thirty three cases of both sexes in the age group of 15-65 years of Tropical Pulmonary Eosinophilia with expectoration and chest pain associated with high eosinophilic counts referred by the out-patient department of Voluntary Health Services are included in the study.

Of the 33 cases, 18 are males and 15 are females. Cases with other diseases like Tuberculosis, chronic bronchitis and Bronchial Asthma are excluded. Motion examination is done in all the cases before inclusion in the study, to rule out worm infestation. Patients are divided into two groups. The compound Āyurvedic preparation containing 200 mgs. of powdered Aśwagandha (*Withania somnifera*), 200 mgs. of powdered turmeric (*Curcuma longa*) and 50 mgs of śwāsakuṭhara (table-I) per

TABLE - I

COMPOSITION OF SWASAKUTARA (Vaidhya Chintamani : Swasa Prakarana)

DRUGS REQUIRED	PART
1) Purified Mercury	1
2) Purified Sulphur	1
3) Purified Aconite	1
4) Purified Borax	1
5) Purified Red Orpinment	1
6) Powders of Black Pepper	8
7) Powders of three Pungents (each)	2
8) Fresh juice from Adhatoda leaves (sufficient quantity)	
9) Fresh juice from Jacquins night shade (sufficient quantity)	

Preparation:

Grind 1 and 2, add 3 to 7 in powder form and grind for 3 days 8 in and 3 days in 9. Make 100 mg. pills.

capsule is administered to the patients at the dose of 6 capsules per day in three divided doses, for 10 days. The other group of patients received Hetrazan 300 mg./day in three divided doses for 10 days.

A detailed clinical history enquiring into the past illness, present illness, co-existence of other complaints is recorded followed by a thorough clinical examination. Skiagram is done in most of the cases to, exclude other conditions and confirm the diagnosis. Complete urine analysis and blood examination like T. C., D. C., E.S.R., Haemoglobin (colorimetric method) Total Eosinophilic count⁶ are done initially, at the end of treatment (10th day) and 30th day for follow-up purpose. Twenty three patients completed the treatment successfully.

Criteria for Inclusion:

Characteristic symptoms of breathlessness, ronchi, cripitations with high increase of Total Eosinophilic count are considered as criteria for inclusion of the cases in the trial. Though the cases with Total Eosinophilic count of 2000 and above are considered as tropical eosinophilia based on studies conducted elsewhere, it is not uncommon to come across cases with lesser counts suffering from severe symptoms of Tropical eosinophilia.

Criteria for Cure or Assessment of Improvement

The following criteria are used to assess the clinical improvement of the patient.

Improvement:

1) Subjective assessment (symptomatic): Patients are questioned about the degree of relief in their symptoms and amelioration of the symptoms is considered as improvement.

2) Objective Assessment (Physical signs): The degree of improvement is decided by taking into consideration diminution or absence of ronchii, crepitations and signs of bronchial spasm.

Percentage of Relief:

Relief of all the initial symptoms is represented as 100% relief. The other percentage is calculated proportionately based on the initial symptoms and relief of symptoms after treatment.

Results and Discussion:

12 Patients are treated with Āyurvedic drug and 11 patients with Hetrazen (modern control). Responses are recorded under clinical (objective and subjective) and haematological finding like Total eosinophilic count and E. S. R. In the group treated with Āyurvedic drug, under objective clinical response, 12 out of 12 patients are found to have complete (100%) relief while 10 out of 11 in modern control. (Table II) Under subjective clinical response, in the group treated with Āyurvedic drug, 8 cases are found to have complete (100%) relief, 1 case 80% relief, 1 case 75% relief and 2 cases 66.5% relief while in modern control group 8 out of all 11 are found to have 100% relief (Table III). Under haematological findings there is significant reduction in total eosinophilic count in modern control and no change in Āyurvedic group. Though there is reduction in E.S.R. in both groups, it is significant only in Āyurvedic group (Table IV).

Swasakutara is expectorant, digestive and mildly stimulant. It contains arsenic and is generally used in coughs and bronchitis.⁷ Though arsenic is considered highly toxic, the way it is processed and used in Āyurvedic compounds make it non-toxic in a prescribed dose. That is why, a large number of potent formulations in Āyurveda contain even chemicals or minerals generally considered toxic. Haridrā (*Curcuma longa*) is well known for its anti-inflammatory⁸

and anti-histaminic⁹ properties. In a clinical trial with *Curcuma longa* in 114 patients of respiratory diseases, significant improvement in signs and symptoms and relief in airway resistance is observed in 22 cases. It is also seen that *Curcuma longa* has no eosinopenic effect in tropical eosinophilia.¹⁰ *Aśwagandhā* (*Withania somnifera*) is also well known for its anti-inflammatory activity and in our previous studies it is shown to reduce E. S. R. significantly in human volunteers.¹¹ Tropical eosinophilia with kapha dominance when treated with this combination respond very well clinically. 100% relief in objective clinical assessment of crepitations, ronchi etc., is obtained. Significant reduction in E. S. R. is in keeping with our earlier findings.¹¹ However the decrease in total eosinophilic count noted in the cases treated with modern drug like hetrazen is not found, in cases treated with Āyurvedic drug. The aetiological relationship between increased total eosinophilic count and tropical eosinophilia is only hypothetical. The decrease in total eosinophilic count even after treatment with modern drug is only gradual. Eventhough there is no reduction of total eosinophilic count, still ayurvedic drugs gives 100% clinical relief both at subjective and objective assessments. Significant reduction in E. S. R. and amelioration of clinical symptoms obtained in this study may be due to respective anti-inflammatory and anti-histaminic effects of *W. somnifera* and *Curcuma longa*, and the combined effect of

TABLE - II

Effect of Ayurvedic Drug & Hetrazen - Objective Clinical Response

Treatment Group	100%	80%	75%	66.67%	50%	33.33%	Total No. of cases
Ayurveda	12	0	0	0	0	0	12
Modern	10	0	0	0	1	0	11

TABLE - III

Effect of Ayurvedic Drug & Hetrazen - Subjective Clinical Response

Treatment Group	100%	80%	75%	66.67%	50%	33.33%	Total No. of cases
Ayurveda	8	1	1	2	0	0	12
Modern	8	1	0	0	1	1	11

TABLE - IV
Effect of Ayurvedic Drug and Hetrazan on Haematological Changes
(Values are Mean \pm S. E.)

PARAMETERS	AYURVEDIC TREATMENT				MODERN TREATMENT				
	INITIAL	FINAL	MEAN DIFFERENCE	INITIAL	FINAL	MEAN DIFFERENCE	INITIAL	FINAL	MEAN DIFFERENCE
1. Total Eosinophilic count/mm ³ blood	2871.27 \pm 480.82 (11)	3045.00 \pm 577.89 (11)	173.73 \pm 367.29 (11)	5104.27 \pm 881.52 (11)	3104.00 \pm 517.37 (11)	-2000.27 \pm 803.66* (11)			
2. Total Leucocyte count	10563.64 \pm 1021.85 (11)	9459.09 \pm 526.34 (11)	-1104.55 \pm 979.34 (11)	12150.00 \pm 833.47 (10)	9740.00 \pm 469.09 (10)	-2410.00 \pm 697.33 (10)			
3. E. S. R. 30 mts	13.55 \pm 3.35 (11)	10.09 \pm 2.71 (11)	-3.45 \pm 1.69@ (11)	8.00 \pm 1.96 (9)	8.22 \pm 2.22 (9)	0.22 \pm 1.29 (9)			
4. E. S. R. 60 mts	31.00 \pm 6.53 (11)	25.73 \pm 6.08 (11)	-5.27 \pm 2.87 (11)	20.00 \pm 4.20 (9)	18.44 \pm 3.78 (9)	-1.56 \pm 1.81 (9)			
5. Haemoglobin g%	10.85 \pm 0.54 (11)	10.46 \pm 0.53 (11)	-0.39 \pm 0.28 (11)	10.73 \pm 0.62 (7)	10.49 \pm 0.67 (7)	-0.24 \pm 0.27 (7)			

@ Within the group comparison - Significant at P < 0.05

* Between the groups comparison - Significant at P < 0.05

Figures in the parentheses represent sample size.

these drugs with Swasakutara. It is not uncommon that cases not responding to standard Hetrazon treatment are treated with arsenic in modern medicine. Āyurvedic drugs employed in the present study contains non-toxic arsenic. Further studies with similar Āyurvedic compounds may help discovery of their effect on total eosinophilic count also. Utility of this ayurvedic compound to obtain optimum clinical relief is not to be underrated.

Acknowledgement

The authors wish to thank Dr. M. V. Chari, M. B. B. S. (Rang.), F.R.C.P. (Lon.), D.T.M. & H (Eng.), Project Officer, for his valuable comments and suggestions. We owe our thankfulness to the former Pharmacist Shri S. P. Venkataraman and present Pharmacist Mrs. T. Mangayarkarasi for their assistance in the manufacture and supply of drugs. We are grateful to the Director, Central Council for Research in Āyurveda and Siddha, for financial assistance.

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