

Clinical Research

Effect of *Kuberaksha Patra Churna*, *Vridhdharu Mula Churna* and *Kandughna Taila* in *Shlipada* (Manifested filariasis)

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Abstract

At present there are effective drugs in eradicating microfilariae but treatments to control the progression of manifested filariasis, periodic adenolymphangitis (ADL) and lymphedema are not available in conventional system of medicine. So far National Ayurveda Research Institute for Vector-borne diseases, Vijayawada, has conducted many clinical trails on manifested filariasis patients with the classical Ayurvedic herbal, herbo-mineral drugs and found significant results on ADL, lymphedema and other acute and chronic clinical manifestations. An effort has been made to find the effect of *Kuberaksha Patra Churna* [*Caesalpinia bonduc* (L.) Roxb.], *Vridhdharu Mula Churna* [*Argyrea nervosa* (Burm.f.) Boj.] and *Kandughna Taila* (oil prepared from 10 Ayurvedic drugs) in manifested filarial patients. Based on inclusion criteria 133 patients were included in three groups (45 in Gr.I, 45 in Gr.II and 43 in Gr.III) and 120 patients completed the study (40 in each group). In Gr. I *Argyrea nervosa* (Burm.f.) Boj. root powder, *Caesalpinia bonduc* (L.) Roxb. leaf powder mixed equally was given in the dose of 5 g twice a day for 30 days. In Gr.II along with Gr. I internal drugs *Kandughna Taila* was applied externally in sufficient quantity once a day for 30 days. Gr. III is a control study with Ayurvedic established drug 'Nityananda Rasa' 1 tablet thrice daily for 30 days. Group I and II drugs showed highly significant effect on lymphedema, lymphadenitis, lymphangitis, pain, tenderness, heaviness, deformity, fever and rigors ($P<0.0001$). Group III drug showed highly significant ($P<0.0001$) effect on lymphedema, deformity and heaviness; statistically significant ($P=0.0018$) on pain and tenderness; Significant effect on fever ($P=0.0290$), rigor ($P=0.0290$) and in lymphangitis ($P=0.0384$) and non-significant effect on lymphadenitis ($P=0.1033$). On statistical analysis effect of treatment on Hb and eosinophil count was found non-significant in three groups. On ESR, effect of treatment was found significant in Gr. III and non-significant in Gr. I and Gr. II.

Key words: *Argyrea nervosa*, *Caesalpinia bonduc*, fever, filariasis, lymphadenitis, lymphangitis, lymphedema, *Shlipada*

Introduction

As per World Health Organization 120 million people living in 81 tropical and subtropical countries of the world are infected with lymphatic filariasis and an estimated 1.34 billion live in areas where filariasis is endemic.^[1] In comparison to global population, India is the largest Filariasis endemic country, contributing about 40% of total global burden of Filariasis.^[2] In Ayurveda, *Shlipada* is correlated with Filariasis of contemporary science.

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As per Ayurvedic literature *Shlipada* is caused by vitiation of *Tridoshas* (three body humors) and among these three body humors, *Kapha* type of body humor plays an important role both in disease progression and treatment. Charaka explained this as sub type of *Shotha* (edema).^[3] Sushruta, has given detailed description of *Shlipada* covering the etiopathogenesis, clinical features, types and prognosis.^[4,5] Ancient Ayurvedic texts like *Bhaishajya Ratnavali*, *Vrindamadhava*, *Yogaratanakara*, *Bhavaprakasha* etc., indicated many herbal and herbo-mineral drugs and formulations for the treatment of filariasis. Many of these formulations have been studied on filariasis. To establish the effect on manifested filarial patients, two internal single drugs and one external formulation were selected based on Ayurvedic classics, pharmacological studies, preclinical studies and clinical studies.

In Ayurvedic texts of *Bhaishajya Ratnavali*, *Yogaratanakara* and in *Vrindamadhava* leaf juice of *Kuberaksha* and root powder of *Vriddhadaru* are indicated in Filariasis.^[6-8] As per Ayurveda bitter and astringent taste, light, dry properties, hot potency and pungent nature in post-digest effect, anti-edema, analgesic actions of *Caesalpinia bonduc* leaf powder and pungent, bitter and astringent taste, light, hot potency, *Kapha* (body humor) pacifying nature, wound healing, anti-edema actions of *Argyreia nervosa* supports the selection of these drugs in *Shlipada*.^[9] Pharmacologically anti-inflammatory, antimicrobial, effect of *Caesalpinia bonduc*, antimicrobial and antibacterial effect of *Argyreia nervosa* were proved.^[10] In earlier researches in acute cases of Filariasis and in Microfilaremia the effect of AYUSH 64 was proved. In AYUSH 64 among the four ingredients *Caesalpinia bonduc* seed is the important ingredient.^[11-13] Effect of the aqueous and alcoholic extracts of the leaves of *Argyreia nervosa* on the spontaneous movements of both the adult worm and a nerve/muscle preparation of *Setaria cervi*, a filarial worm of cattle, and on the survival of microfilariae *in vitro* was studied. The aqueous extract in a dose of 150 µg/ml. caused a decrease in tone and amplitude of spontaneous movements of the worm. A similar response was produced by the alcoholic extract but at a much lower concentration of 75 µg/ml. The aqueous extract produced complete paralysis of the nerve/muscle preparation in a dose 25 µg/ml whereas with alcoholic extract only 50 ng/ml was required.^[14] Although in both the above cases the useful parts are different, it can be presumed that the same active principles also present in leaves of *Latakaranja* (*Caesalpinia bonduc*) and root of *Vriddhadaru* (*Argyreia nervosa*) and selected for Gr.I study.

In Gr-II along with *Latakaranja* and *Vriddhadaru*, *Kandughna Taila* was used externally. Studies in chronic lymphedema patients proved that bacterial invasion in skin initially cause dermatitis and later leads to Adenolymphangitis (ADL) and progression of disease. To prevent the disease progression, in Gr.II externally medicated oil is also indicated. Among the 10 ingredients of *Kandughna Taila* (oil prepared from Charaka *Kandughna Dashemani* and sesame oil) on external use, all are having anti-itching and skin protecting property. Among them *Chandana* (*Santalum album* Linn.) and *Nalada* (*Vetiveria zizanioides* (Linn) Nash) pacifies burning sensation; *Kritamala* (*Cassia fistula* L.), *Madhuka* (*Glycyrrhiza glabra* L.), *Musta* (*Cyperus rotundus* L.), *Daruharidra* (*Berberis aristata* DC.) have anti-edema property; *Cassia fistula*, *Vetiveria zizanioides*, sesame oil, have analgesic action. Sesame oil and *Berberis aristata* possess wound cleaning property. Sesame oil and *Naktamala* (*Pongamia pinnata* Pierre.) have wound healing property, *Santalum album* and *Vetiveria zizanioides* possess complexion promoting property and *Pongamia pinnata* has wormicidal properties.^[15] Antibacterial, antiviral, antiprotozoal, antimicrobial, antifungal, anti-inflammatory, analgesic, antiulcer, antiexudative, wound healing and smooth muscle relaxant properties of the ingredients also supports the selection of this oil in the treatment of Filariasis.^[10,16-18]

Group III is Control group with Ayurvedic established drug *Nityananda Rasa*. *Nityananda Rasa* is a well-established drug in Ayurvedic system of medicine and used in both acute and chronic cases as a drug of choice. As per *Rasendra Sara Sangraha* and *Bhaishajya Ratnavali* it is very useful in alleviating *Shlipada* (Filariasis).^[6,19]

With this background an attempt was made to establish the effect of *Caesalpinia bonduc* leaf powder, *Argyreia nervosa* root powder and *Kandughna Taila* in Filariasis.

Materials and Methods

Aims and objective

1. To assess the effect of *Kuberaksha Patra Churna* and *Vriddhadaru Mula Churna* in various clinical and laboratory findings of *Shlipada*.
2. To assess the synergetic effect of *Kuberaksha Patra Churna* and *Vriddhadaru Mula Churna* along with external application of *Kandughna Taila*.
3. To compare the effects *Kuberaksha Patra Churna*, *Vriddhadaru Mula Churna* and *Kandughna Taila* with established Ayurvedic drug *Nityananda Rasa*.

Criteria for inclusion

1. Patients with visible lymphedema, who were already diagnosed and established as Manifested Filarial patients by the chronicity, clinical manifestations, periodic episodes having cardinal signs and symptoms like lymphadenitis, lymphangitis, deformity, pain, tenderness, fever, rigors, etc. were selected for present study.
2. Patients should be with in the age limit of 5-70 years and chronicity of the disease should be more than 1 year.

Criteria for exclusion

Patients having nodular deformity, thorny deformity, anthill like deformity, nutritional edema, edema due to liver and cardiac disorder, arthritic disorder are excluded from the study.

Place of study

Present study was conducted at National Ayurveda Research Institute for Vector-borne diseases (formerly Regional Research Institute), Vijayawada (Institute under Central Council For Research in Ayurvedic sciences, Department of AYUSH, M/o Health and Family Welfare, Govt. of India) during 2009-2011. This study was approved by Institutional Ethics Committee of National Ayurveda Research Institute for Vector-borne diseases, Vijayawada.

Drugs and dose

Drug collection, identification and standardization and estimation of heavy metals of *Caesalpinia bonduc* (L.) Roxb leaf powder, *Argyreia nervosa* (Burm.f.) Boj. root powder was done at Plant Taxonomy Division, Laila Impex R & D Centre, Vijayawada.^[20,21] Standardization of *Kandughna Taila* was also conducted at Plant Taxonomy Division, Laila Impex R and D Centre, Vijayawada [Figures 1-3].^[22]

In Group - I *Argyreia nervosa* (Burm.f.) Boj. root powder, *Caesalpinia bonduc* (L.) Roxb. leaf powder mixed equally was given to 45 patients in the dose of 5 g twice a day with water before food for 30 days. In Group-II, 45 patients were given Gr.I internal drugs along with external application of *Kandughna Taila* once day for 30 days. In Gr. III, 43 patients were given control drug (Ayurvedic established drug) *Nityananda Rasa* 1 tablet (125 mg) thrice a day after food for 30 days. *Nityananda Rasa* of Baidyanath Ayurveda Pharmacy was purchased from the market at a time with same batch number and date (080160/October



Figure 1: Kuberaksha Patra Churna [Caesalpinia Bonduc (L.) Roxb. leaf powder]



Figure 2: Vriddhadaru mula curna [Argyrea nervosa (Burm.f.) Boj. root powder]

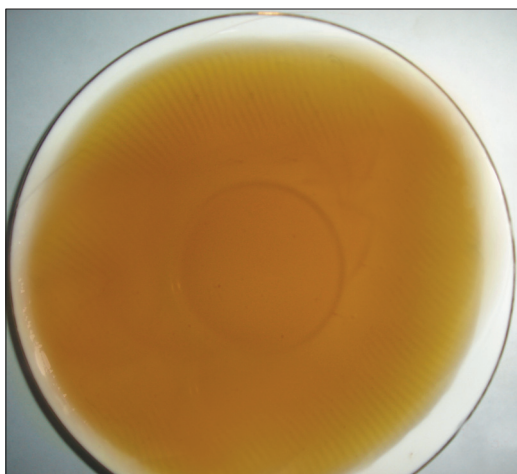


Figure 3: Kandughna Taila (oil prepared from 10 Ayurvedic drugs-Charaka Dasaimani)

2008). If the age of the registered patients is found to be less than 12 years; the dose was reduced by 50%.

Safety profile

Argyrea nervosa (Burm.f.) Boj, LD 50 of seed extract is 500 mg/kg body weight. Methanol, benzene, chloroform, petroleum ether extracts of the plant were found non-toxic in dose range of 100-750 mg/kg *i.p.* as observed during 72 hours after administration.^[18]

In a subacute toxicity study in rat, 'Ayush-64' an Ayurvedic antimalarial drug (containing seeds of *C. bonducella* as one of the constituents) when administered orally at the dose of 500 mg/kg for 30 days it did not show any toxic effects hematologically, biochemically and histologically at the cellular level.^[23] While standardizing these collected drugs safety profile including heavy metal toxicity was done and found in normal levels.

Kandughna Taila is used externally and due its soothing effect in this study it was proved safe. No patient had complained adversely against its external use.

Assessment of result

Detailed history of the patient covering both demographic and other Ayurvedic parameters were noted in separate Proforma. Routine Laboratory investigations covering TC, DC, ESR, Hb, Urine Routine and Microscopic, stool ova/cyst along with DECPT (Diethylcarbamazine citrate provocation test), urine for chyle were investigated at 1st, 8th, 15th, 23rd and 30th days of treatment.

Based on Ayurvedic and Modern disease reviews and research, Central Council for Research in Ayurvedic Sciences, Department of AYUSH, Govt. of India, had prepared a standard protocol and proforma for *Shlipda* (filariasis). To assess the effect of treatment gradation of parameters with specific scores were denoted in this proforma. In the present study as per the proforma each patient clinical finding were noted in terms of score before the treatment (on date of enrolment) on 8th, 15th, 23rd and 30th days.

Gradation of parameters with specific scores for the assessments of results

I. L ymphadenitis	
a). When one are more lymph gland(s) are enlarged	10
b). Glands partially reduced in size	5
c). Completely reduced to normal size	0
II. Lymphangitis	
a). Swelling of any lymphatic channel visible/palpable	10
b). Partially reduced	5
c). Completely reduced	0
III. Swelling (lymphoedema):	
Much elevated that the part seems grossly deformed	30
Covers well the bony prominences/upper surface of the affected part	20
Slightly obvious or reveals more in comparison with normal side	10
No swelling	0
IV. Pain	
Moderate: Patient frequently complain of pain	8
Mild: Patient tells of pain after asking	4
Nil: No pain at all	0
V. Tenderness	

Grade-I: The patient winches and withdraws the affected part	15
Grade-II: The patient winches	10
Grade-III: The patient says that the part is tender	5
Grade-IV: No tenderness at all	0
VI. Fever	
Present	5
Absent	0
VII. Rigor	
Present	2
Absent	0
VIII. Heaviness	
Present	2
Reduced	1
Absent	0

Basing on the individual score of each finding before and after treatments, the response of the treatment can be assessed. Over all effect of the treatment in each individual patient can be assessed by the below formula. i.e., over all percentage of relief = (Total score of all findings before treatment – Total score of all findings after the treatment) × 100/Total score of all findings before treatment. Patients with 75% or more relief in clinical symptomatology are considered as Good response, 50 to <75% relief is considered as Fair response, 25 to <50% as Poor response and less than 25% as No response. Based on Individual score before and after treatments statistical analysis was also done using Graphpad free software paired ‘t’ test method.

Results and Discussion

In three groups female patients are more in comparison with males. Mean age in three groups is around 45 years. Mean disease duration (chronicity) is around 10 years. Mean score difference of before and after treatments is more in Gr. II and less in Gr. I [Table 1].

In Gr. I and Gr.III only patients suffering from Filarial legs were included and in Gr. II along with patients with Filarial legs, two filarial hand patients were also included [Table 2].

In results Good and fair responses are more in Gr. II followed by Gr. I and Gr. III. No responses are more in Gr. III [Table 3].

In percentage of relief of lymphadenitis, lymphangitis, lymphoedema, pain, tenderness, heaviness, fever and rigor more relief was observed in Gr. II followed by Gr. I and least relief were observed in Gr. III [Table 4].

On statistical analysis of results, In Gr.II the effect of treatment on acute symptoms like lymphadenitis, lymphangitis, pain, tenderness, fever, rigors and chronic symptoms like lymphedema, swelling (measured at four points of affected leg or hand), heaviness, deformity, etc., were found extremely significant [Table 5]. Although Gr-I, had also shown extremely significant results on all clinical parameters, the percentage of improvement is more in GR-II. This can be assessed by comparing the percentage of relief, mean and SD values of both groups. In comparison with Group II and Group I, Group III had shown less improvement. Being the control group and used as drug of choice in Ayurvedic fraternity this *Nityanandarasa* (Gr. III) had also shown highly significant ($P<0.0001$) effect on chronic symptoms like lymphedema and heaviness. Effect of treatment on pain and tenderness is considered to be very statistically significant ($P=0.0018$). In fever ($P=0.0290$), rigor ($P=0.0290$) and in lymphangitis ($P=0.0384$) the effect is considered to be statistically significant. In lymphadenitis ($P=0.1033$) the effect is considered to be not statistically significant [Table 5].

After completion of the study follow-up studies were also carried out and less periodic attacks were observed in Gr. II patients, followed by Gr. I and Gr.III. No patient had developed severe side effects/adverse reactions. Two patients in Gr. I and one patient in Gr. II had diarrhea for 2 days which was relieved by the intake of buttermilk. Five patients in group I and 6 in Gr. II had the feeling of nausea due to the bitter taste of *Caesalpinia bonduc* (L.) Roxb. leaf powder. Among those 133 enrolled one patient in Group I was hospitalized due to unknown diseases along with acute periodic attack. He discontinued the treatment before completion of the first week of treatment and excluded from the study (drop out). Along with 120 completed cases (40 in each group) of present study four patients in Gr.I, five patients in Gr.II and three patients in Gr.III left the study with out any medical advice (LAMA). As these patients left the study at various intervals, in the present study completed cases (40 in each group) only were considered for the assessment of result.

Before, during and after treatments in lab investigations all the patients were found free from DECPT and chyle in urine. On statistical analysis effect of treatment on Hb and eosinophil count was found non significant. On ESR effect of treatment was found significant in Gr. III and non-significant in Gr. I and Gr. II [Table 6].

On overall assessment the present study accentuates the positive effect of three group's drugs on Manifested filarial patients' clinical findings [Figures 4-9].

Table 1: Demographic pattern

Patients particulars	Gr.I	Gr.II	Gr.III
Male: Female	11:34	13: 32	17:26
Mean age in years	48.47	46.22	49.37
Mean disease duration in years	11.19	9.47	9.97
Mean score on overall parameters before and after treatments (for completed patients i.e., 40 in each group)	53.75: 24.1	49.675: 19.775	51.375: 36.95

On comparison Group II drugs which includes both Gr. I internal drugs and *Kandughna Taila* external application had shown better results in comparison with Gr. I and control drug

Table 2: The parts affected

Affected part	No. of patients in Gr. I	No. of patients in Gr. II	No. of patients in Gr. III
Right leg	21	24	19
Left leg	22	15	18
Both legs	2	4	6
Right hand	0	2	0
Left hand	0	0	0
Both hands	0	0	0
Total	45	45	43



Figure 4: Group I before treatment

Table 3: The results of the treatment

Group	Results of the treatment (%)						Total
	Good Resp.	Fair Resp.	Poor Resp.	No Resp.	Drop out	LAMA	
Gr. I	10 (22.22)	15 (33.33)	12 (26.67)	3 (6.67)	1 (2.22)	4 (8.89)	45 (100)
GR. II	10 (22.22)	21 (46.67)	8 (17.78)	1 (2.22)	0	5 (11.11)	45 (100)
Gr. III	7 (16.28%)	6 (13.95)	10 (23.26%)	17 (39.53%)	0	3 (6.98%)	43 (100%)

Table 4: The relief on over all parameters

Parameters	Groups	Total score before treatment	Total score after treatment	Percentage of relief
Lymphadenitis	Gr. I	160	145	71.88
	GR. II	120	10	91.667
	Gr. III	150	110	26.667
Lymphangitis	Gr. I	155	40	74.20
	GR. II	130	10	92.308
	Gr. III	160	110	31.25
Lymphoedema	Gr. I	960	650	32.29
	GR. II	910	600	34.066
	Gr. III	1000	740	26
Pain	Gr. I	296	64	78.38
	GR. II	284	40	85.916
	Gr. III	200	144	28
Tenderness	Gr. I	270	45	83.33
	GR. II	295	40	86.441
	Gr. III	230	160	30.435
Heaviness	Gr. I	78	35	55.10
	GR. II	76	24	68.421
	Gr. III	77	57	25.974
Fever	Gr. I	100	15	85
	GR. II	60	5	91.667
	Gr. III	100	60	40
Rigor	Gr. I	36	6	83.30
	GR. II	22	2	90.909
	Gr. III	38	22	42.105
Overall	Gr. I	2150	964	55.16
	GR. II	1987	791	60.191
	Gr. III	2055	1478	28.078

Table 5: The relief on all clinical parameters

Symptom	Group	N	Mean and SD			S.E (Diff)	t	P
			B.T	A.T	BT-AT			
Lymph-edenitis	Gr.I	19	8.42 ±2.39	2.37±3.06	6.05 ±3.15	0.723	8.367	<0.0001 [§]
	Gr.II	15	8.00±2.54	0.67±1.76	7.33±2.58	0.667	11.000	<0.0001
	Gr.III	28	5.36±3.02	3.93±3.43	1.43±4.48	0.847	1.6859	= 0.1033 [@]
Lymph-angitis	Gr.I	18	8.61±2.30	2.22±3.52	6.39±4.47	1.055	6.059	<0.0001
	Gr.II	18	7.22±2.56	0.56±1.62	6.67±2.97	0.700	9.522	<0.0001
	Gr.III	25	6.40±3.07	4.40±3.63	2.00±4.56	0.913	2.1909	= 0.0384 [#]
Lymphedema	Gr.I	40	24.00±7.09	16.25±11.02	7.75±6.98	1.103	7.027	<0.0001
	Gr.II	40	22.75±7.16	15.00±10.62	7.75±5.77	0.912	8.498	<0.0001
	Gr.III	40	25.00±6.41	18.50±10.75	6.50±8.34	1.318	4.9316	<0.0001 [§]
Pain	Gr.I	40	7.40±1.45	1.60±2.18	5.80±2.71	0.428	13.536	<0.0001
	Gr.II	40	7.10±1.69	1.00±1.75	6.10±2.39	0.379	16.112	<0.0001
	Gr.III	38	5.26±1.88	3.79±2.45	1.47±2.70	0.438	3.3662	= 0.0018 [§]
Tender-ness	Gr.I	36	7.50±2.54	1.25±2.50	6.25±3.02	0.503	12.426	<0.0001
	Gr.II	40	7.38±2.77	1.00±2.03	6.38±2.77	0.438	14.552	<0.0001
	Gr.III	37	6.22±2.17	4.32±3.37	1.89±3.41	0.560	3.3790	= 0.0018 [§]
Heavi-ness	Gr.I	40	1.95±0.22	0.88±0.76	1.08±0.73	0.115	9.315	<0.0001
	Gr.II	40	1.90±0.30	0.60±0.74	1.30±0.72	0.114	11.368	<0.0001
	Gr.III	40	1.93±0.27	1.43±0.84	0.50±0.78	0.124	4.0311	= 0.0002 [§]
Fever	Gr.I	20	5.00±0.00	0.75±1.83	4.25±1.83	0.410	10.376	<0.0001
	Gr.II	12	5.00±0.00	0.42±1.44	4.58±1.44	0.417	11.000	<0.0001
	Gr.III	23	4.35±1.72	2.61±2.55	1.74±3.57	0.744	2.3361	= 0.0290 [#]
Rigor	Gr.I	18	2.00±0.00	0.33±0.77	1.67±0.77	0.181	9.22	<0.0001
	Gr.II	11	2.00±0.00	0.18±0.60	1.82±0.60	0.182	10.000	<0.0001
	Gr.III	23	1.65±0.78	0.96±1.02	0.70±1.43	0.298	2.3361	= 0.0290 [#]
Overall effect	Gr.I	40	53.75±18.16	24.10±15.28	29.65±13.46	2.128	13.933	<0.0001
	Gr.II	40	49.68±16.33	19.78±12.35	29.90±13.39	2.118	14.118	<0.0001
	Gr.III	40	51.38±16.49	37.00±22.01	14.38±20.64	3.264	4.4039	<0.0001

[§]By conventional criteria, this difference is considered to be highly statistically significant. [@]By conventional criteria, this difference is considered to be not statistically significant.

[#]By conventional criteria, this difference is considered to be statistically significant. [#]By conventional criteria, this difference is considered to be very statistically significant.

Table 6: The changes in laboratory parameters

Laboratory finding	Group	N	Mean and SD			S.E Diff.	t	P
			B.T	A.T	BT-AT			
Hemoglobin	Gr.I	40	10.948±1.503	11.072±1.3171	-0.124 ±0.7411	0.117	1.0604	=0.2955
	Gr.II	40	10.431±1.5088	10.613±1.321	-0.182±1.1667	0.184	0.9826	=0.3319
	Gr.III	40	10.800±1.9546	10.894±1.7553	-0.094±0.7461	0.118	0.7862	=0.4365
Eosinophil	Gr.I	40	5.58±2.00	5.18±1.81	0.40±2.22	0.350	1.1414	=0.2607
	Gr.II	40	5.93±2.43	5.35±1.76	0.58±2.99	0.474	1.2143	=0.2319
	Gr.III	40	5.38±2.07	5.23±2.15	0.15±2.52	0.398	0.3769	=0.7083
ESR	Gr.I	40	48.18±28.80	44.08±28.98	4.10±27.06	4.278	0.9584	=0.3437
	Gr.II	40	58.28±32.04	50.38±38.25	7.90±37.68	5.957	1.3262	=0.1925
	Gr.III	40	59.33±43.30	50.75±38.20	8.58±26.05	4.119	2.0818	=0.0440 [#]

[#] By conventional criteria, this difference is considered to be statistically significant and remaining all considered to be not statistically significant

i.e., Gr. III. External application of *Kandughna Taila* probably takes care of skin to restrict the periodic episodes, secondary bacterial infections and restriction of adenolymphangitis (ADL). This may be the main reason in minimizing periodic episodes in Gr. II in follow-up studies. The significant effect on ESR of Group III, *Nityanandaras* indicates its role in reducing internal infection more potently than Gr. I and Gr. II. Further studies with *Argyreia nervosa* (Burm.f.) Boj.

root powder, *Caesalpinia bonduc* (L.) Roxb. leaf powder can confirm the positive effect of these two drugs including macrofilaricidal activity.

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Figure 5: Group I after treatment



Figure 6: Group II before treatment



Figure 7: Group II after treatment



Figure 8: Group III before treatment



Figure 9: Group III after treatment

Dr. Ala Narayana, Director, NIIMH, Hyderabad; Dr. G. K. Swamy, A. D (in-charge) NARIVBD, Vijayawada; Shri G. Ganga Raju, Chairman, Laila Group and Mr. G. Rama Raju, Managing Director, Laila Impex for their help and guidance in the study. The authors are highly thankful to Dr. NTR University of Health sciences, Vijayawada, A.P. for providing

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हिन्दी सारांश

श्लीपद में कुबेराक्ष पत्र चूर्ण, वृद्धदारु मूल चूर्ण और कण्डूघ्न तैल का प्रभाव

गोली पंचाल प्रसाद, एम. एल. नायडू

माइक्रोफाइलेरिया प्रभाव के उन्मूलन हेतु औषध उपलब्ध है। परन्तु इस रोग के फैलने के नियन्त्रण हेतु एवं आवर्तिक एडिनोलिफानजाइटीस और लिंफेडिमा को कम करने के लिए आयुर्वेदिक चिकित्सा की तुलना में आधुनिक चिकित्सा में सही औषध उपलब्ध नहीं है। अब तक नेशनल आयुर्वेद रीसर्च इन्स्टीट्यूट (वेक्टर बार्न डिजीज), विजयवाड़ा में चिकित्सकीय अनुसन्धान में प्रकटित फाइलेरियासिस को आयुर्वेदिक वनस्पति द्रव्यौषध और रसौषध का प्रयोग करके एडिनोलिफानजाइटीस, लिंफेडिमा, नवीन और चिर प्रकटित लक्षणों में महत्वपूर्ण सफलता प्राप्त हुई है। इस अध्ययन के लिए प्रकटित फाइलेरियासिस रोग में कुबेराक्ष (सीसल्पीनिया बॉडक (एल) राक्सब.) पत्र चूर्ण, वृद्धदारु (आर्जीरिया नेर्वोसा (बर्म.एफ.) बोज) का मूल चूर्ण और कण्डूघ्न तैल (चरक के कण्डूघ्नदशैमाणि के दस औषध द्रव्यों से बनाया गया तैल) का प्रयोग किया गया। उस प्रयोग में समाविष्ट अनुकूल मापदण्ड में १२० रोगियों को तीन वर्गों में विभाजित करके एक एक वर्ग में ४० रोगियों को रखा गया। उसमें प्रथम वर्ग में कुबेराक्ष पत्र चूर्ण एवं वृद्धदारु मूल चूर्ण को समान भाग में मिला कर ५ ग्राम दिन में दो बार ३० दिन दिया गया। दूसरे वर्ग में प्रथम आभ्यान्तर वर्ग के द्रव्यों के साथ, बाह्य कण्डूघ्न तैल का लेपन भी ३० दिन तक दिया गया। तीसरे वर्ग में आयुर्वेद में प्रतिष्ठित नित्यानन्दरस १ गोली (१२५ मि.ग्रा.) ३ बार ३० दिन तक दी गई। चिकित्सा के पश्चात् प्रथम वर्ग एवं दूसरे वर्ग में लिंफेडिमा, लिंफेडिनाइटिस, लिंफानजाइटीस, पीड़ा (शूल) और स्पर्शासह्यता, भारीपन, विकृति, ज्वर, कम्पन में सांख्यिकीय दृष्टि से अत्यधिक लाभ ($P<0.0001$) पाया गया। तीसरे वर्ग में लिंफेडिमा, भारीपन, विकृति में अत्यधिक सार्थक लाभ ($P<0.0001$) और शूल एवं स्पर्शासह्यता में अधिक सार्थक लाभ ($P=0.0018$) मिला। सन्तोषजनक सार्थक लाभ ज्वर में ($P=0.0290$), कम्पन ($P=0.0290$) एवं लिंफानजाइटीस ($P=0.0384$) में मिला। लिंफेडिनाइटिस में परिणाम सांख्यिकीय दृष्टि से सार्थक नहीं थे ($P=0.1033$)। सांख्यिकीय विश्लेषण में तीनों वर्गों में हिमोग्लोबिन एवं ईओसिनोफिल काउण्ट में परिणाम सार्थक नहीं थे, परन्तु इ.एस.आर. में तृतीय वर्ग में सार्थक परिणाम पाये गए।