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ROLE OF *TAGARA MULA CHURNA* IN ESSENTIAL HYPERTENSION

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Patients with arterial hypertension and no definable cause are said to have primary, essential or idiopathic hypertension. Twenty patients affected by essential hypertension were selected from the Aarogyashala of National Institute of Ayurveda, Jaipur and they were treated with Tagara Mula Churna. The results were encouraging in the cases of mild essential hypertension and were found to be statistically significant.

Introduction

Hypertension, an elevated arterial pressure is probably the most important public health problem in developed countries. Most of the people develop Hypertension during their life time. It has become the most common cardiovascular disease. Essential hypertension has no definable cause. The primary difficulty in uncovering the mechanism responsible for the essential hypertension in patients is attributable to the variety of systems that are involved in the regulation of arterial pressure like peripheral and/or central adrenergic, renal, hormonal and vascular, and to the complexity of the interrelations of these systems. While it is still uncertain whether these individual abnormalities are primary or secondary. When a group of patients with essential hypertension is separated into a distinct subset, the patients have not been reclassified as having a form of secondary hpertension but rather remain in the essential hypertension group. When we think about Ayurvedic *Samprapti* of hypertension, it seems to be a *Pittolvana Tridosaja* disease in which *Manasika Dosa* and *Agni* play most important role by producing *Ama Rasa* which results in *Dhamani Upalepa* and cuases *Aavaranajanya Vata Prakopa* in which *Rasa, Rakta and Medodhatu* act as *Dusya*.

Tagara (*Valeriana wallichii* DC.) possesses *Medhya, Mastiska Shamaka* and *Mutral* properties. It may act as *Srotomukha*

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Vishodhaka durg due to its *Usna Virya* property. A drug with such pharmacodynamic properties is likely to cheaper, safe, effective and freely available drug for the management of Hypertension. Hence *Tagara* was selected for evaluating its clinical efficacy in patients of essential hypertension on various scientific parameters.

Materials and Methods

The methodology adopted for the assessment of role of *Tagara Mula Churna* in the management of essential hypertension are summarised below :

Selection of cases : For the clinical study, selection of all 20 patients was made from the patients attending the O.P.D./I.P.D. of Kayachikitsa Deptt. of Aarogyashala of N.I.A. Jaipur. Only patients of essential hypertension were included in the study. Detailed history and clinical examination of all the patients were recorded after the patients were considered suitable for the study and they were registered for the present trial. The diagnosis of hypertension was made on the basis of measuremnt of blood pressure by sphygmomanometer as per the WHO classifications mainly depending on the range of diastolic pressure, on the basis of history, clincial findings, laboratory investigations and E.C.G. changes.

Administration of drug : *Tagara Mula Churna* was administered in the dose of 5 gm BD, with luke warm water to all the patients for nearly 30-45 days. Patients were advised to consume restricted diet including minimum salt and fat intake.

Parameters of assessment : During the trial and follow-up studies the parameters adopted for the assessment of the role of *Tagara Mula Churna* in the management of essential hypertension are described below:

Subjective improvement : The points which were specially looked into include the increase in the feeling of well being and improvement in the level of elevated blood pressure towards normal limits.

Pattern of changes in systolic & diastolic blood pressure : The blood pressure of all the patients was recorded on every alternate day.

Clinical improvement : Patients were asked for any change in sleep pattern after the therapy.

Laboratory investigations : It include urine R/M examination, blood urea, serum creatinine and E.C.G. Each patient was assessed bi-weekly on the basis of above parameters. Laboratory investigations were performed after every fortnight.

Observations and results

Feeling on well being : 20% patients revealed significnat improvement in the feeling of well being after the treatment with *Tagara Mula Churna* (Table 1).

Pattern of changes in blood pressure : It is clear from Table 2 & 3, *Tagara Mula*

Table 1

Feeling of overall well being after treatment with *Tagara Mula Churna* in 20 cases of hypertension.

Feeling of well being	No. of patients	Percentage	't'	'p'
Present	4	20	2.19	< 0.05
Absent	16	80	-	-

Churna reduces the level of systolic and diastolic blood pressure towards normal levels in mild cases of essential hyperension, which was statistically significant ($P < 0.01$) both for systolic & diastolic B.P.). In moderate cases of essential hypertension it showed a clinical trend of increase in systolic blood pressure but it reduced diasystolic blood pressure. Statistically the change were significant ($P > 0.10$ in systolic and diasystolic B.P.)

In the cases of severe essential hypertension systolic blood pressure increased and diastolic blood pressure decreased after treatment with *Tagara Mula churna*, which was not statistically significant ($P > 0.10$ for both systolic & diastolic B.P.).

In very severe essential hypertension, no change was observed in systolic blood pressure but diastolic blood pressure was found to be reduced clinically. Both were statistically insignificant ($P > 0.10$ for systolic and diastolic B.P.).

Clincial improvement : As shown in Table 4, a significant reduction in the severity of

Table 2

Changes in systolic and diastolic blood pressure in 20 cases of hypertension after treatment with *Tagara Mula Churna*

Grade	Changing in blood pressure after treatment							
	Systolic				Diastolic			
	±S.D.	S.E.	't'	'p'	±S.D.	S.E.	't'	'p'
Mild	±5.06	2.07	5.80	<0.01	±3.50	1.43	5.13	<0.01
Moderate	±24.77*	8.26*	0.19*	>0.10*	±10.20	3.40	0.26	> 0.10
Severe	±14.42*	8.33*	0.48*	>0.10*	±12.86	7.43	0.09	>0.10
Very severe	±2.83	2.00	–	> 0.10	±4.24	3.01	0.33	>0.10

* Indicates elevation in Systolic/Diastolic blood pressure

Table 3

Reduction in elevated blood pressure after treatment with *Tagara Mula Churna* in 20 cases of hypertension

S.No. of patients	Mild hypertension			Moderate hypertension			Severe hypertension			Very severe hypertension		
	B.T. (mm Hg)	A.T. mm(Hg)	Difference	B.T. mm(Hg)	A.T. (mm Hg)	Difference	B.T. (mm Hg)	A.T. (mmHg)	Difference	B.T. (mm Hg)	A.T. (mm Hg)	Difference
1.	158/94	148/88	10/6	178/100	158/100	20/0	180/116	200/130	-20/-14	262/172	260/168	2/4
2.	162/92	158/86	4/6	158/100	148/98	10/2	170/100	0/10	186/150	188/152	-2/-2	
3.	152/94	138/88	14/6	158/100	168/120	-10/-20	180/116	172/110	8/6			
4.	158/98	140/90	18/8	150/100	152/100	-2/0						
5.	154/96	138/92	16/4	160/100	140/80	20/20						
6.	146/94	136/80	10/14	180/100	242/100	-62/0						
7.				150/100	142/100	8/0						
8.				180/100	182/100	-2/0						
9.				160/100	156/94	4/6						
Mean difference Blood pressure		12 for systolic 5.7 for diastolic			-1/6 for systolic 0.88 for diastolic			-4.0 for systolic 0.666 for diastolic			0 for systolic 1 for diastolic	
't' value		1.13 for diastolic 5.80 for systolic										
'p' value		<0.10 for diastolic and systolic										
Level of improvement		Statistically significant			Stastically insignificant			Statistically insignificant			Statistically insignificant	

A,T. = After treatment, B.T. = Before treatment

Table 4

Clincial recovery in 20 cases of hypertension treated with *Tagara Mula Churna* in terms of mean symptom score as rating scale

Symptoms and sings	Mean	±S.D.	S.E. difference	't'	'p'
Sirah Sula	0.7	±0.80	0.18	3.90	<0.001
Bhrama	0.55	±0.69	0.15	3.58	<0.01
Klama	0.75	±0.64	0.14	5.25	<0.001
Hritdrava	0.7	±0.72	0.16	4.68	<0.001
Anidra	1.15	±1.14	0.25	4.52	<0.001
Krodha Pracurata	0.75	±0.79	0.18	4.26	<0.001
Svasa Kricchata	0.85	±0.81	0.18	4.67	<0.001
Smritinasa	0.15	±0.24	0.05	2.79	<0.05
Manasamksobha	0.5	±0.51	0.114	4.36	<0.001
Sirodaha	0.15	±0.37	0.08	1.83	>0.05
Dhamani Kathinya	0.05	0.22	0.05	0.99	>0.10
Hrillasa	0.15	±0.37	0.08	1.83	>0.05

Shirah Shula, Bhrama, Klama, Hritdrava, Anidraa, Krodha Prachurata, Svasa Kricchata, Smriti Nasa and *Mana Samksobha* was recorded after the therapy. In *Sirodaha, Dhamani Kathinya* and *Hrillasa* no significant improvement was noted after the course of the therapy.

Sleep pattern : there was a general observation that the mean rate score of sleep pattern/insomnia in final follow up

Table 4

Sleep pattern in 20 cases of hypertension after treatment with *Tagara Mula Churna*

Sleep pattern	Mean difference	±S.D.	S.E.	't'	'p'
Insomnia	2.40	±0.55	0.25	9.6	<0.001
Disturbed sleep	1.38	±0.92	0.33	4.2	<0.01
Sound sleep	0	-	-	-	-

Table 6

Bio-chemical changes after treatment with *Tagara Mula Churna* in 20 cases of hypertension

S.No.	Serum creatinine (mg/dl)			Blood urea (mg/dl)		
	B.T.	A.T.	Difference	B.T.	A.T.	Difference
1.	1.3	1.1	0.2	20.00	18	-2
2.	1.4	1.5	-0.1	37.50	48	+10.5
3.	1.4	1.3	0.1	20.00	18	-2
4.	1.3	1.3	0	30.00	29	-1
5.	0.9	0.9	0	24.99	30	+5.01
6.	0.9	1.0	-0.1	20.00	27	+7
7.	0.9	0.9	0	24.00	30	+6
8.	1.4	0.9	0.5	42.00	36	-6
9.	0.9	0.9	0	25.70	26	+0.3
10.	0.9	0.9	0	28.00	24	-4
11.	1.0	0.9	0.1	34.00	24	-10
12.	0.9	1.1	-2.0	19.40	30	+10.6
13.	0.9	1.1	-2.0	20.00	28	+8
14.	1.6	1.4	0.2	48.00	40	-8
15.	1.5	1.2	0.3	44.00	46	+2
16.	0.9	0.9	0	24.00	25	+1
17.	0.9	1.2	-0.3	20.00	18	-2
18.	1.6	1.5	0.1	32.00	32	-0
19.	0.9	0.9	0	26.00	30	+4
20.	0.9	1.1	-0.2	32.00	31	-1

Serum creatinine +S.D. = $\pm$ 0.188, S.E. = 0.042, 't' = 0.48, 'P' = > 0.10, Blood urea S.D. = $\pm$ 18.44, S.E. = 4.13, 't' = 0.22, 'P' > 0.10 (-) Sign indicates an increase in the level of serum creatinine where as in the case of blood urea it shows the level of decrease, A.T. = After treatment, B.T. = Before treatment.

study was significantly improved ($P < 0.001$) in comparison to respective initial readings. Most of the patients confirmed that after the therapy with *Tagara Mula Churna* they developed the habit of getting sound sleep (Table 5).

Laboratory investigations

Bio-chemical studies : Serum creatinine and blood urea levels did not show statistically significant difference between initial and final follow up readings.

However it was observed in some cases that there was a trend of increase in the level of Blood urea after treatment which was not found to be statistically significant. This aspect needs further clarifications and research work to confirm this finding (Table 6).

E.C.G. : Tracings were recorded in all the 20 cases before and after the treatment with *Tagara Mula Churna*. In most of the cases E.C.G. tracing were found to be within normal limits after the treatment.

Discussion

Increase in the feeling of well being, improved sleep pattern and clinical improvement after the therapy with *Tagara Mula Churna* confirm the textual description of *Tagara Mula Churna* as already mentioned that if possesses *Vata Kapha Shamaka* property, *Usna Virya*, *Medhya* and *Mastiska Shamaka* properties. *Tagara Mula Churna* treated cases of hypertension showed a clinical trend of reduction of systolic and diastolic blood pressure in mild cases of essential hypertension which was found to be statistically significant but in moderate, severe and very severe cases it showed no significant improvement in the reduction of the level of raised blood pressure. It is observed that probably *Tagara Mula Churna* has potent effect on diastolic blood pressure rather then systolic blood pressure. As in cases of severe and very severe cases of hypertension, there was no affect on systolic blood pressure, where as diastolic blood pressure showed a trend of clinical decline. It has come to our notice during bio-chemical studies that there was a trend of clinical increase in the level of blood urea in some of the cases but it was statistically insignficiant. Further researches are needed on this aspect before drawing any concrete conclusion.

All the patients were asked for any side/toxic effects of the drug produced in their body after administration of the drug. A few cases reported heart burn after taking the drug. There was a geneal complint from almost all the patients that due to specific odour of the drug, it was difficult to swallow.

Conclusion

It can be concluded the present trial that *Tagara Mula Churna* is a good remedy for the management of mild cases of essential hypertension as it not only produces a feeling of well being with significant symptomatic relief but also lower down the elevated level of systolic and diastolic blood pressure towards normal limits.

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सारांश

प्राथमिक उच्चरक्तचाप में तगर मूल चूर्ण का प्रभाव

उमेश शुक्ला एवं अजय कुमार शर्मा

प्रस्तुत अध्ययन में प्राथमिक उच्चरक्तचाप के २० रोगियों में तगर मूल चूर्ण के चिकित्सात्मक प्रभाव का अध्ययन किया गया है। २० रोगियों में इस औषधि के प्रयोग से स्वस्थता की अनुभूति में वृद्धि का अनुभव हुआ तथा लाक्षणिक सुधार भी पर्याप्त मात्रा में पाया गया जो कि सांख्यिकीय रूप से भी महत्वपूर्ण है। अनिद्रा की अवस्था में भी पर्याप्त सुधार पाया गया। मृदुस्वरूप के उच्चरक्तचाप में प्रसारकालिक एवं संकोचकालिक रक्तचाप में चिकित्सा उपरान्त पर्याप्त न्यूनता पाई गई जो सांख्यिकीय दृष्टि से भी सिद्ध होती है। तीव्र स्वरूप के उच्चरक्तचाप में कोई विशेष लाभ दृष्टिगोचर नहीं हुआ। चिकित्सा पूर्व तथा पश्चात् जैव रसायनिक अध्ययन में सांख्यिकीय दृष्टि से औषधि द्वारा कोई परिवर्तन नहीं पाया गया।

इस परीक्षण से यह निष्कर्ष निकाला जा सकता है कि तगर मूल चूर्ण को मृदुस्वरूप के प्राथमिक उच्चरक्तचाप में चिकित्सा हेतु सफलतापूर्वक प्रयोग किया जा सकता है।