

Original Research

Role of Arjuna (*Terminalia arjuna*) in Management of Chronic Myocardial Infarction

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Abstract:

Chakradatta pioneer in popularizing Arjuna for the treatment of heart diseases advises use of Arjuna in form of its Kshirpaka. Therefore in this study nine patients of chronic myocardial infarction were treated with Arjuna Kshira-Paka for one month to evaluate its role in management of this condition. The results of this study showed that the drug provided significant relief in the signs and symptoms and significantly reduced SGOT and clotting time. Arjuna Kshira-Paka provided marked improvement to 11.1% patients, moderate improvement to 22.2% patients and mild improvement to 44.4% patients while 22.2% patients remained unchanged.

Key Words: Chronic myocardial infarction, Arjuna Kshira Paka, Krimija Hridroga

Introduction

Myocardial infarction (Krimija Hridroga) is a very serious condition generally with fatal outcome. If the patient survives the attack, the allopath doctors prescribe some medicines with aim to prevent or reduce the thrombus, reduce the LDH and enhance HDL and take care of body weight, diabetes hypertension etc if present. Ayurveda calls these factors as Samprapti-Ghataka and may manage such patients successfully and may prevent the further attack.

Ayurveda has a unique concept of Pathya along with many Ayurveda drugs which can take care of the above mentioned Samprapti Ghataka. To boost the confidence of Ayurveda physicians in this regard, Rasala and Gurdipsingh (1998 and 2019) conducted a scientific study and reported beneficial effects of Arjuna Kshira-Paka in preventing the chemically induced myocardial infarction in rats. This study was planned to evaluate the effect of the same drug in the patients who survived the first attack of myocardial infarction and willing to undergo Ayurveda management to prevent their further attack.

Aims: Evaluation the role of Arjuna-Kshira-Paka in management of post myocardial infarction patients.

Materials and Methods

10 such patients who had an acute attack of myocardial infarction but recovered and willing to undergo Ayurveda treatment for their further management were selected from OPD of IPGT&RA Hospital Jamnagar.

Criteria of Diagnosis: Diagnosed as myocardial infarction as well as undergone the treatment in modern hospitals and presenting with post MI symptoms were again subjected to ECG for final diagnosis.

Inclusion Criteria: The patients of both the sexes, having chronicity of more than three months were included.

Exclusion Criteria: The patients suffering from diabetes, severe hypertension and other severe diseases were excluded.

Drugs and Doses: Arjuna Ksheera Paaka was prepared by taking one part of bark powder of Arjuna (*Terminalia arjuna*), eight parts of milk and 32 parts of water. It was heated on slow fire till whole water was evaporated and only eight parts of milk remained. The filtrate thus obtained was used as Arjuna Kshira Paaka and was given in the dose of 40 ml twice a day, morning and evening for 60 days.

Criteria of Assessment:

The improvement in signs and symptoms was assessed by way of assigning definite scores and accordingly noting the changes before and after the treatment.

Overall effect of the therapy was assessed as follow:

Complete Remission: 100% relief in signs and symptoms with no recurrence up to 6 months of the study

Marked improvement: Improvement in signs and symptoms between 50 and 100%

Improvement: Improvement in signs and symptoms 25 to 50%.

Unchanged: Improvement in signs and symptoms less than 25%

Deteriorated: Increase in signs and symptoms or appearance of new lesions.

Results and Observations

Out of 10 patients of chronic myocardial infarction registered, one was drop out. The effect of the Arjuna Kshirapaka administered for 60 days on the chief complaints of chronic myocardial infarction is shown in Table-1 and on the general symptoms in Table-2. The next Table-3 depicts the effect of the drug on physical parameters. Biochemical and blood coagulation tests were done before and after the treatment and the value thus obtained along with statistical data are shown in Table-4 and Table-5 respectively. Overall effect of the therapy on the patients of myocardial infarction is shown in Table-6.

Table-1

Effect of Arjuna Kshira Paka on the Chief Complaints of Chronic Myocardial infarction Patients

Chief Complaints	Mean score		%age change	SD (±)	SE (±)	t	P
	BT	AT					
Duration of chest pain in minutes	93.0	31.5	66.12	69.55	23.18	2.94	<0.05
Chest pain score	3.1	2.3	29.03	0.78	0.26	3.41	<0.01
Breathlessness	2.1	0.9	57.1	0.70	0.23	5.67	<0.001
Edema	2.0	1.33	33.3	0.44	0.14	1.51	>0.05
Fatigue	2.44	1.0	59.1	0.73	0.24	5.96	<0.001

Table-2

Effect of Arjuna Kshira Paka on the General Signs and Symptoms of Chronic Myocardial infarction Patients

General symptoms	Mean score		%age change	SD (±)	SE (±)	t	P
	BT	AT					
Palpitation	7.5	2.0	73.3	3.64	1.21	1.09	>0.05
Blackout	9.42	1.0	89.4	15.55	1.85	1.52	>0.05
Toda	1.0	0.75	25.0	0.33	0.11	1.0	>0.05
Nausea	1.0	0.8	20.0	0.33	0.11	1.0	>0.05
Low appetite	1.0	0.0	100	0.0	0.0	infinite	<0.001

Table-3

Effect of Arjuna Kshira Paka on the Clinical Parameters of Chronic Myocardial infarction Patients

Parameters	Mean		%age change	SD (±)	SE	t	P
	BT	AT					
Weight in Kg	56.7	56.6	0.18	0.82	0.27	0.40	>0.05
BMI	21.1	21.04	0.16	0.93	0.11	0.33	>0.05
Pulse/M	76.22	74.4	2.33	8.86	2.95	0.60	>0.05
Systolic BP mm Hg	157.3	146.2	7.08	8.95	2.98	3.72	<0.01
Diastolic BP mm Hg	95.11	86.67	8.87	4.36	1.45	7.33	<0.001
Pulse pressure mm Hg	65.56	62.89	4.06	8.31	2.77	0.96	>0.05
Cycling capacity in meters	1200.0	1955.6	51.59	659.5	2.95	2.26	>0.05
Targeted heart rate %	72.15	80.45	11.64	5.68	2.54	3.3	<0.05

Table-4

Effect of Arjuna Kshira Paka on the Biochemical Investigations of Chronic Myocardial infarction Patients

Parameters	Mean score		%age change	SD (±)	SE	t	P
	BT	AT					
Fasting blood sugar	91.5	85.0	6.67	14.70	6.0	1.02	>0.05
SGOT	30.8	27.58	10.45	2.20	0.99	3.22	<0.05

Table-5

Effect of Arjuna Kshira Paka on the Blood Coagulation Parameters of Chronic Myocardial infarction Patients

Parameters	Mean score		%age change	SD	SE	t	P
	BT	AT					
Bleeding time in seconds	211.8	218.8	3.3	24.18	7.64	0.17	>0.05
Blood clotting Time seconds	393.3	409.3	4.07	24.18	7.64	0.17	<0.05
Platelet count in Lakh	2.94	3.0	4.08	0.43	0.17	1.49	>0.05

Table-6

Overall Effect of Arjuna Kshira Paka on the Chronic Myocardial infarction Patients

Result	Number of patient	%age of patient
Complete remission	00	0.0
Markedly improved	01	11.1
Moderately improved	02	22.2
Mild improvement	04	44.4
unchanged	02	22.2

Discussion

Arjuna (*Terminalia arjuna*) is very commonly used drug for general heart ailments and Rasala et al studied its specific role in prevention of induced myocardial infarction in rats and reported that Arjuna Kshirapaka has a moderate effect in prevention of the infarction. Therefore this clinical study was undertaken to evaluate its role in management of chronic myocardial infarction. For this purpose Arjuna Kshirapaka was administered orally for 60 days to the patients of chronic myocardial infarction.

The drug significantly reduced the duration of chest pain by 66.12%, fatigue by 59.1%, breathlessness by 57.1%, and intensity of chest pain by 29.03% and low-appetite by 100% (Table-1 & 2). It also significantly reduced the systolic blood pressure by 7.08% and diastolic BP by 8.87 (Table-3).

It also significantly reduced the SGOT by 10.45% and blood clotting Time by 4.07% (Table-4 & 5). Thus it showed anti coagulant and heart protective actions.

After the treatment 11.1% patients were found markedly improved, 22.2% patients moderately improved and 44.4% patients mildly improved but remaining 22.2% patients remained unchanged (Table-6).

Conclusion

Arjuna Kshirapaka administered for 60 days significantly reduced the duration of chest pain by 66.12%, fatigue by 59.1%, breathlessness by 57.1%, low-appetite by 100% and chest pain score by 29.03%.

It significantly reduced the systolic blood pressure by 7.08% and diastolic BP by 8.87%.

It also significantly reduced the SGOT by 10.45% and blood clotting Time by 4.07%.

After the treatment 11.1% patients were found markedly improved, 22.2% patients moderately improved and 44.4% patients mildly improved but remaining 22.2% patients remained unchanged.

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