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**CLINICAL STUDY ON THE EFFECT OF *RASON KSHIRPAK* WITH *ERAND SNEH* ON *PAKSHAGHAT*(HEMIPLEGIA)**

**AUTHORS**

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**Abstract:**

The stroke incidence in India is much higher than western developed countries. It ranged from 105 – 152/100,000 person/year. Large no. of patients suffering from hemiplegia are visiting Panchakarma OPD of Govt. Ayurved College attached hospital, vadodara. A clinical study conducted on 27 patients out of which 20 patients who completed the course were selected for data and clinical presentation. Atherosclerosis in large intracranial vessel is common cause of ischemic stroke in India. Hypertension, diabetes, smoking, high lipids, old age are common risk factors.

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## Introduction

Hemiplegia is paralysis of one half of the body i.e. upper and lower limbs of the same side. There are several causes of hemiplegia viz. vascular, intracranial infections, trauma, hysteria etc., two causes are very common ischemia and hemorrhage. Hemiplegia is differentiated mainly in three kind of pathology – thrombosis, embolism and haemorrhage.<sup>1</sup>

All kind of pathology can be seen in middle age where as hemiplegia followed by hemorrhage is seen in old age due to atherosclerosis, in which sudden high blood pressure is usually cause of hemiplegia.

In present study most of the patients were from the age 40 – 70 years. So atherosclerosis may be common amongst these patients. An Ayurveda formula selected to treat these patients was of such kind which can reduce atherosclerosis. The formulation was conceptually decided which gave enthusiastic result in initial patients, so also tried on some more patients because of which the publication of this paper became possible. This Ayurveda formulation simply contains milk, garlic and castor oil(*Erand*). Castor oil was added to *Rason kshirpak*. Garlic has the property to reduce the thrombus within the arteries, and as per ayurved concept castor oil is mild purgative which regulate and corrects the direction of flow of *vaat* from *pratiloma* to *anuloma*. So it can be said that garlic liquefies *kapha*, and castor oil corrects the direction of *vaat* by purgative (*virechan*) action. For disturbance of direction of *vaat*, vitiated *kapha* is responsible. Action of garlic and castor oil was conceptually assumed, ready formulation of such kind is not available in ayurvedic texts, though it acted miraculously.

## Aims and objectives

In most cases hemiplegia is followed by atherosclerosis which is as per ayurved concept it's a *kapha dushti*, so in present study *Rason* (garlic) is used, which is *katu rasa* in taste and *katu rasa* can remove thrombosis(*shonitsanghat*).<sup>2</sup> It also act on vitiated *vaat* and *kapha*,<sup>3</sup> *Erand sneh* has purgative action and as per ayurved concept for the treatment of hemiplegia purgation(*Virechan*) is suggested.<sup>4</sup> Hence the present study was carried out to scientifically evaluate the efficacy of *Rason kshirpak* with *Erand sneh* in *pakshaghat*.<sup>5</sup>

## Material and methods

### Preparation of Trial drug

#### Preparation of Rason Kshirpak<sup>6</sup>

*Rason*(*Allium Sativum* L.) is specially kashmiri garlic which is also called as mountain garlic were taken 5 in no., its outer skin was removed and crushed it to make paste, this paste was added in 100 ml. of milk, four times water i.e. 400 ml of water was added , boiled on slow temperature till all the water gets evaporated. Heat is stopped and when it become lukewarm 50 ml of edible castor oil(*Erand sneh*) added to it.

**Table 1**

	Sanskrit name	Botanical Name	Used part	Proportion
1	<i>Rason</i>	Allium sativum L.	Fruit(Root)	5 in No.
2	<i>Erand</i>	Ricinus Communis	Seed(Oil)	50 ml

### **Selection of patients**

#### **Inclusion criteria**

Twenty patients fulfilling the inclusion criteria were enrolled in this study from opd & ipd of Govt. Ayurved Hospital, Vadodara, Gujarat. Detail medical history was taken and physical examination was done in detail according to both modern and ayurvedic clinical methods. Patients of either sex , aged more than 12 years and less than 80 years, patients who were attended opd with clinical features of inability of movement of any half side of body i.e. upper and lower extremity(*Ardhakay Akarmanyata*), weakness of muscles (*sandhibandh shaithilya*), mouth deviation(*mukh vakrata*), difficulty in swallowing(*Nirgalan kashtata*) were included in this study.

#### **Exclusion criteria**

Patients less than 12 years and above 80 years, pregnant ladies, critical patients, paraplegia (*Adharang ghat*), monoplegia (*Ekang ghat*), quadriplegia (*sarvang ghat*) were excluded from the study.

#### **Clinical study**

Enrolled patients fulfilling the criteria, orally administered *Rason kshirpak* 100 ml with *Erand sneh* 50ml on empty stomach, twice in a day in morning and evening for seven days. The parameters of assessment were based on symptomatic relief and were measured by using a graded scale.

#### **Assessment criteria**

The assessment was done on the basis of improvement in signs and symptoms as per NIHSS( National Institute of Health Stroke Scale), the scoring pattern was as follows,

##### 1A Level of consciousness

- 0 – alert
- 1 – drowsy
- 2 – Obtunded
- 3 – coma

##### 1B Orientation questions(two)

- 0 – answers both correctly
- 1 – answers 1 correctly
- 2 – answers neither

##### 1C Response to commands

- 0 – Performs both tasks correctly
- 1 – performs one task correctly

- 2 – performs neither
- 2 Gaze
- 0 – normal horizontal movements
  - 1 – partial gaze palsy
  - 2 – complete gaze palsy
- 3 Visual fields
- 0 – no visual field defect
  - 1 – partial hemianopia
  - 2 – complete hemianopia
  - 3 – bilateral hemianopia
- 4 Facial movements
- 0 – normal
  - 1 – minor facial weakness
  - 2 – partial facial weakness
  - 3 – complete unilateral palsy
- 5 Motor function(arm)
- 0 – no drift
  - 1 – drift before 10 seconds
  - 2 – falls before 10 seconds
  - 3 – no effort against gravity
  - 4 – no movement
  - a– left, b – right
- 6 Motor function(leg)
- 0 – no drift
  - 1 – drift before 5 seconds
  - 2 – falls before 5 seconds
  - 3 – no effort against gravity
  - 4 – no movement
  - a– left, b – right
- 7 Limb ataxia
- 0 – no ataxia
  - 1 – ataxia in one limb
  - 2 – ataxia in two limbs
- 8 Sensory
- 0 – no sensory loss
  - 1 – mild sensory loss
  - 2 – severe sensory loss
- 9 language(Speech)
- 0 – normal
  - 1 – mild aphasia
  - 2 – severe aphasia
  - 3 – mute or global aphasia
- 10 Articulation
- 0 – normal
  - 1 – mild dysarthria
  - 2 – severe dysarthria

### 11 Extinction or inattention

- 0 – absent
- 1 – mild( loss of 1 sensory modality)
- 2 – sever( loss of two modalities)

### Severity as per stroke scale

Score                      stroke severity

- 1 – 4                      minor stroke
- 5 – 15                    moderate stroke
- 16 – 20                  moderate to severe stroke
- 21 – 42                  severe stroke

### Overall assessment of therapy

Total effect of the therapy was assessed on the following grounds.

- Complete remission – more than 75% relief in signs & symptoms.
- Marked improvement – between 51% & 75% improvement in signs & symptoms.
- Improved – between 25% & 50% achievement.
- Unchanged – no improvement in signs & symptoms.

### Statistical analysis

Statistical data is prepared using the programme sigma 3.2., p value <0.05 was considered as significant and <0.01 as highly significant effect.

### Observation

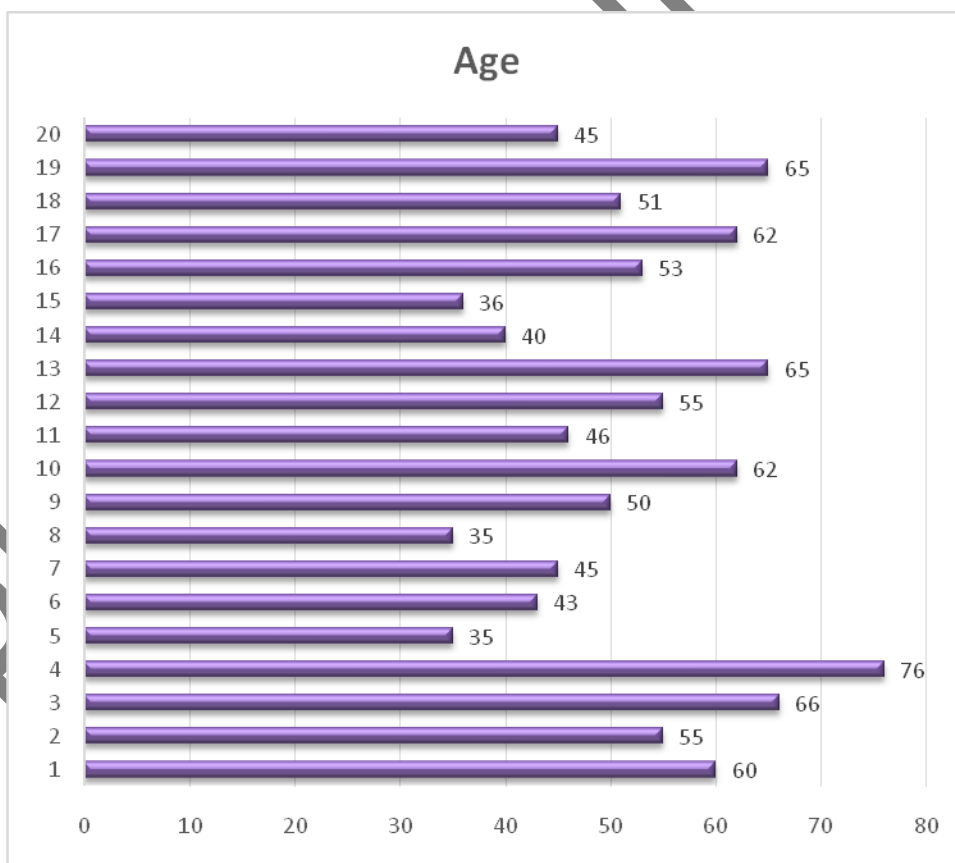
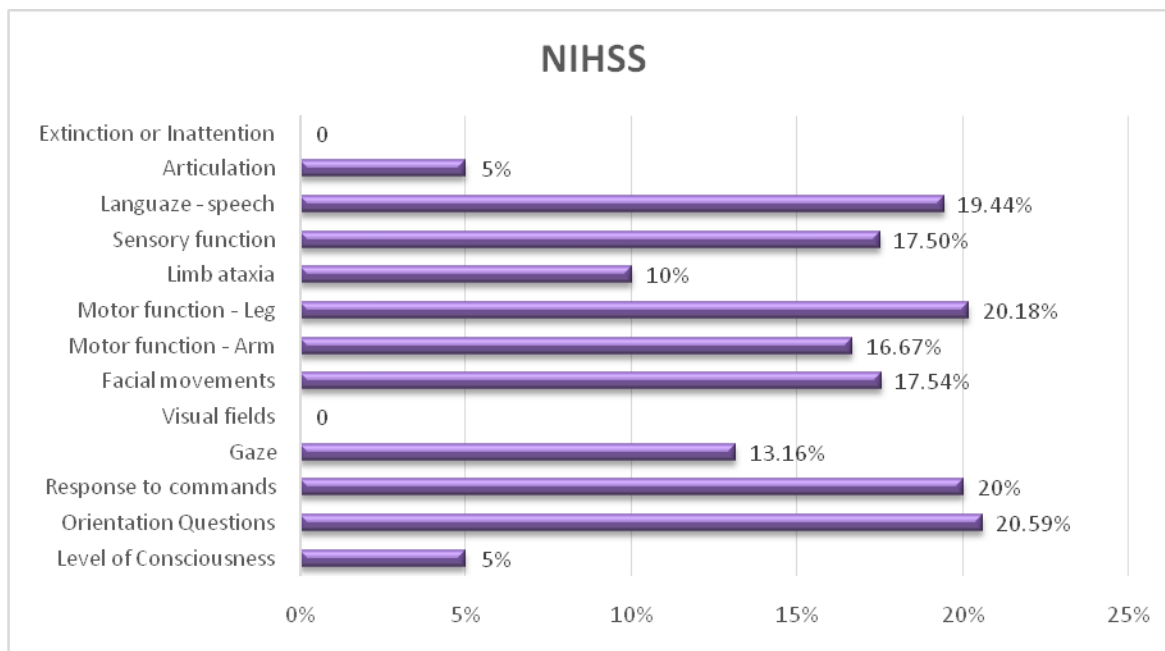
In this study maximum number of patients were male (18), same number of patients belonged to hindu, one muslim & one catholic, maximum number of patients were belonged to job(12), six were retired, seven patients were known hypertensive & were taking allopath antihypertensive, the medicine was continued while this therapy, four patients were diabetic(*madhumeh*) who were on modern medicines, where as two patients were having *madhumeh* & *uccharaktachap*. This shows that atherosclerosis may be common in these patients as a cause of hemiplegia. Maximum number of patients belonged to age group 40-50 & 60-70, 6 & 5 respectively.

Among NHISS examinations in almost all criteria got highly significant result as shown in table 2 and graph 1. The result of therapy was 12.69 % after oral administration of *Rason Kshirpak* with *Erand sneh*. While this clinical research the prime therapy *Abhyang* and *swedan*(Oil massage and sudation) which is common *Panchakarma* procedures to treat any *vaat* disorder was not given. To bring muscle power back routine *abhyang swedan* was started after one week which gradually increased the result to 33.25%, 40.65%, 45.85% in 18, 17, 8 patients in 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> week respectively. The most interesting part of this research work was, there were four patients of such kind who after getting an episode of hemiplegia without approaching to modern hospital on 2<sup>nd</sup> or 3<sup>rd</sup> day visited this ayurved hospital and overall got 20% improvement as per NIHSS, 3 patients after receiving treatment at modern hospital who got the episode 1 – 2 week back, with this therapy got 24% result. There were 7 patients who had episode from 1 – 9 month but less than a year got 16% improvement and six chronic patients who had episode from 1 – 7 years got 15% result. Thus it is the observation that

more the acute episode better is the result. From the present data and the clinical research it is also observed that in younger patients (mostly age group 35 – 45 and 46 -55years) the recovery was speedy. In very acute patients who visited this hospital on stretcher / wheel chair could walk with support after seven days and without support within 15 days to a month.

**Table 2 - showing result as per NIHSS (National Institute of health Stroke Scale)**

NIHSS	N	t	p	Remark
1A Level of consciousness	20	1.453	0.163	NS
1B Orientation questions(two)	17	3.199	0.005	HS
1C Response to commands	20	3.199	0.005	HS
2 Gaze	19	2.179	0.042	HS
3 Visual fields	02	0	01	NS
4 Facial movements	19	3.684	0.002	HS
5 Motor function(arm)	18	5.164	<0.001	HS
6 Motor function(leg)	19	7.071	<0.001	HS
7 Limb ataxia	20	2.169	0.042	HS
8 Sensory	20	3.162	0.005	HS
9 language(Speech)	18	3.508	0.002	HS
10 Articulation	20	01	0.329	NS
11 Extinction or inattention	06	0	01	NS



Graph 1 showing result as per NHISS  
 Graph 2 showing age wise classification of patients.

## Discussion

Hemiplegia, as per modern science is a upper motor neuron disease, due to infarction in brain followed by thrombosis/hemorrhage the sensory & motor supply to muscle of one side of extremities gets cut off, such situation for longer period creates wasting & weakness of muscles. In such situation massage & sudation i.e. *abhyang* & *swedan* therapy plays important role to bring the power & tone back to the muscles but in present study while the course of *Rason kshirpak* with *Erand sneha* for seven days the *abhyang* & *swedan* was not given to check the effect on rejuvenation of brain cells & also for development of alternative blood supply. Results were gained as per assumption & conceptual application of therapy. Without *abhyang* & *swedan* the improvement in sensory & motor action of muscle observed. This shows that this formula corrects the *sang*(obstruction) pathology & regulates the flow of *vaat* from *pratiloma* to *anuloma*. After achieving result post CT/MRI was tried but hardly any patient returned with report. In 1 patient post reporting was possible but no changes found in that so the author of this paper consulted neurologist of govt. hospital for opinion, who told that changes in CT/MRI may not be possible but patient gets relief symptomatically. So advanced study should be done for this disease. One more amazing thing was observed that though large quantity of *Erand sneha* was given to patient(50ml) twice a day, such a large quantity if given to normal person, diarrhea or motions for several times is possible but in patients selected for present study, no loose motion occurred in seven days, but after seven days such thing happened, that is also the reason that this therapy was given for seven days only, after seven days almost in all patients therapy was continued but dose of *Erand sneha* was reduced from 50 ml to 20 ml or 10 ml in *mrudu koshtha* patients after a gap of 1 – 2 days. *Abhyang* and *swedan* was started after seven days which jumped the improvement in patients.

## Conclusion

present data it can be concluded that this group of patients has got better relief in most of the sign and symptoms of the disease. Better relief observed in mouth deviation, slurring of speech, swallowing difficulties, movement of extremities, gait. So the *Rason Kshirpak* with *Erand sneh* can be successfully used in the management of *Pakshaghat*(Hemiplegia).

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