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CRITICAL STUDY OF PAKSHAVADHA (HEMIPLEGIA) IN BRUHAT TRAYEE AND ITS PRINCIPLES OF MANAGEMENT

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ABSTRACT

Cerebrovascular diseases attribute priority among all neurologic diseases. Modern science believes that the brain tissues once damaged completely cannot be repaired by the therapies leading to permanent neurological deficit. Hence, the disease has a poor prognosis, making the person disabled, dependent. There are no much treatment modalities to treat the residual spasticity of a chronic patient of Hemiplegia. Considering necessity of time to find out more effective treatment modality I exerted parallel group comparative study of 60 patients divided in 2 groups named Group A & B managed for *Pakshavadha* (Hemiplegia) treatment selected from the I.P.D. and O.P.D of *Yashwant Ayurvedic* College Hospital *Kodoli* Dist *Kolhapur. In* Group A patients were treated *with virechana, snehana, svedana* therapy while for Group B patients *shaman chikitsa* given. Patients of both the groups were followed up after completion of the course of therapies to assess variations in symptomatology on subjective and objective criteria of assessment, Wilcoxan ranked sign test is utilized as statistical test for conclusion. Considering the deep-seated nature of the disease, its chronicity, involvement of a main *Marma (Shira)* longer duration of therapy may be required for even more results that are admirable.

Keywords: Cerebrovascular, Hemiplegia, Wilcoxan, *virechana, snehana, svedana*

INTRODUCTION

Vaayurayurbalamvaayurvaayurdhaataashareerinaam |
Vaayurvishvamidamsarvamprabhurvaayuschakeertitaha|| [1]

Vaayu is termed as *Aayu, vaayu* is *shareerabala, vaayu* do *sharer dhaarana*, whole universe is *vayurupa* and so *vaayu* is termed as *prabhu* (god). Changed lifestyle, night evil, augmented environmental hazards, imitation of foreign culture, altered food-drink habits, easy pleasureful life provoking various *Vata* disorders now a days.

Hatvaikammaarutahpakshamdakshinamvaama-mevvaa|
Kuryaachcheshtanivruttim hi rujamvaakstambha-mev cha||
Gruhitvaardhamshareerasyasiraahasnaayurvisho-shyach |
Paadamsankochyatyekamhastamvaatodshoolkrut |
Ekangrog tam vidyatsarvangamsarvadehaja || [2]

Acharya Charaka says that *Vayu* beholds either side right or left of the body, dries up the *sira and snayu* of that part and producing loss of movements, contraction of hand or leg along with *ruja and vakstambha*. This changing life style leads to vitiation of *vaata,* chief amongst *Tridosha* and dynamic entity of life and locomotion. One of the conditions offshoots, as consequence of vitiated vaata is *Pakshavadha*. Hemiplegia has posed a great problem to the medical field as far as its treatment is concerned. The term Hemiplegia applied to voluntary muscles signifies loss of the power of voluntary contraction, due to interruption, whether functional or organic in any motor part of cerebral cortex down to the muscle fibre.[3] This excludes pathology of muscles or any such type. Modern science believes that the brain tissues once damaged completely cannot be repaired by the therapies leading to permanent neurological deficit. Hence, the disease has a poor prognosis, making the person disabled dependent. *Acharya of Ayurveda* has also placed *Pakshavadha* in the *Kruchchrasadhya* or *Yapya category*. This means that there is no perfect cure for this disease. In India after coronary heart disease and cancer of all types, CVA is the third commonest cause of death worldwide. [4]

Here the word critical means clear, impartial in this study I tried to study aetiopathogensis, symptomatology of *Pakshavadha,* with special reference to Hemiplegia to find out safe, effective remedy for disease in our hospital which will provide baseline data to plan future preventive strategies for government and will help young physicians to deal with this disabling disease.

Factors Involved In *Samprapti Of Pakshavadha*

- *DOSHAS*
  Vaata : *(All five types; Prana, Udana vayu especially),*
  Pitta : *(Pachak pitta,Ranjak Pitta especially),*
  Kapha : *(Shleshak and Avalambaka Kapha especially)*
- *DUSHYAS* : *Rasa, Rakta, Mamsa, Meda Dhatu and Manas*
- *AGNI* : *Jatharaagni, Dhatvaagni*
- *AMA* : *Dhatwaagni-Maandya-Janya*
- *STROTASA* : *Rasavaha, Raktavaha, Mamsavaha, and Medavaha*
- *STROTODUSHTI* : *Atipravrutti, Sanga, Siraagranthi & Vimaarga Gamana*
- *UDBHAVA STHANA* : *Pakwaashaya*
- *SANCHARA STHANA* : *Urdhwa, Adhah, Tiryak Dhamanis*
- *ADHISTHANA* : *Shira*
- *ROGAMARGA* : *Madhyam Roga marga*
- *VYAKTI STHANA* : *Either Dakshin or Vama Paksha* [5]

Treatment

Svedanam Snehasamyuktam Pakshaghate Virechanam|| [6]

Charakacharya mentioned *svedan, snehan*, and *virechana* as treatment modality for *Pakshaghat.* Following this treatment modality I subdivided patients in two groups named Group A undergoing *Virechana, Snehana, Svedana* Therepy And Group B Following *Shaman Chikitsa*

Materials & Methods:

This is a parallel group comparative study of 60 cases subdivided in two groups named Group A & B managed for *Pakshavadha* (Hemiplegia) treatment in the medical ward of *Yashvant Ayurvedic* College Hospital *KODOLI* DIST.*KOLHAPUR* from 10 September 2013 to 31 0ctober 2013.

Inclusion Criteria

Age group from 30 years to 70 years, Irrespective of age, sex, and economy class, Patients well diagnosed of *Pakshavadha* (Hemiplegia) and 1 month after occurrence of disease.

Exclusion Criteria

Comatose, unconscious patients**,** Hemiplegia with serious heart disease, Diabetes mellitus**,** Trauma, Cerebral tumor etc major neurological deficit and *Kaphaj Pakshavadha* patients.

Treatment

GROUP A: *Virechana, Snehana, Svedana Therapy*

1. Langhan

Prior to *Abhyantar Snehapan, Langhan* was advocated in patients from one to four days or until *Ama Pachan* on Assessing *Agniparikshana* [7,8]

2. Abhyantara Snehapan

After *ama pachan* and *agnideepan, abhyantara snehapan* with *'Ashavagandha Ghrita'* was commenced in progressively increasing dose from 5 to 7 days starting from 40 ml to 240 ml. Dose of the *sneha* was manipulated according to the *bala, vaya*, etc. of the patient. Patients were directed to follow *Snehapana* Guidelines.[9]

3. Abhyanga And Swedan

After observation of *Samyaka Snigdha Lakshan*, patients subjected to *abhyanga and swedan* for next two days. [10]

4. Virechan

Thereafter, '*Shyama Trivrutta Avaleha'* advocated for *Virechan Karma*. The dose was 1 *Panitala* (10 grams). At Time 7-8 am. *Shita Jala* was given as anupana. Vitals of patients recorded during procedure carried out as per textual guidelines. [11]

5. *Sansarjana Karma*

As per the shuddhi of the patients, they were kept on sansarjana karma as given in the classics. [12]

6. *Snehana, Swedana*

The *virechan* course took approximately 17 day for completion. After resuming to normal diet, the patients were started the *shaman chikitsa* with *Ksheerabala taila,* and *Bala moola Kashay* for *Bahya snehana svedana* for subsequent 30 days. Thus the total duration of Group A treatment was approximately 50 days. [13,14]

GROUP B: *Shaman Chikitsa*

The patients in this group treated with only *shaman chikitsa*. The patients who were not fit for the *virechan karma*, especially senile age group were taken in this group. In this group *Eranda taila* administered assessing *Koshtha pravrutti* 5 ml for *Mrudu Koshtha,* 10 ml for *Madhya Koshtha* and 15 ml for *Krura Koshtha* along with 1 cup of *Godugdha* continuously for 30 days, at time just before evening meal (*Sayan bhojan poorva- Udana Kaala*. Along with that *Ksheerabala taila*, and *Bala moola Kashay* utilised for *Bahya snehana* svedana Patients were directed to avoid indulgence in day sleep, night evil, consumption of *Vata vardhak* substances etc. Total treatment schedule for this group was of 30 days. [15, 16, 17]

Follow Up Study

Patients of both the groups were followed up after completion of the course of therapies to assess variations in symptomatology.

Assessment Criteria

Subjective

Power score, Hand grip power, Motor function of Arm, Motor function of leg,
Reflex, Muscle tone

Objective

Speech, Facial palsy, Walking capacity, Pain, *Vibandha*

Assessment Chart

1. Power Score

Complete Paralysis =1, Slight flicker of contraction = 2, Movement excluding gravity = 3, Movement against gravity but not against resistance = 4, Movement against gravity and resistance = 5, Normal movement = 6

2. Hand grip power

0 to 10 mm of Hg = 1, 11 to 20 mm of Hg = 2, 21 to 30 mm of Hg = 3, 31 to 40 mm of Hg = 4

3. Motor function of Arm

No movement = 1, No effort against gravity, limb falls = 2, Some effort against gravity, limb cannot get to or maintain (if cued) 90 (or 45^0), drifts down to bed, but has some effort against gravity = 3, Drift, Limb holds 90 (or 45^0), but drifts down before 10 seconds, does not hits bed or other support = 4, No drift, limb holds 90 (or 45^0) for full 10 second = 5

4. Motor function of leg

No movement = 1,No effort against gravity leg falls to bed immediately = 2, Some effort against gravity, leg falls to bed by 5 seconds, but has some effort against gravity = 3, Drift, leg falls by the end of 5 second period but does not hit bed = 4, No drift, leg holds 30^0 position for full 5 seconds = 5

5. Reflex

Clonus = 1, Very brisk = 2, Brisk = 3, Normal = 4

6. Muscle tone (Rigidity)

Affected part is rigid in flexion or extension abduction or adduction = 1, Slight increase, manifested by a catch and release or by minimal resistance at end range of motion (R.O.M.) when part is moved in flexion or extension/ abduction or adduction = 2**,** Considerable increase, passive movement is difficult = 3**,** Marked increase, through most of the R.O.M., but affected part is easily moved = 4

7. Speech

Mute = 1, Mostly incomprehensible = 2, Must repeat for comprehension =3, Unclear, but no need to repeat for comprehension = 4, Normal =5

8. Facial Palsy

Complete paralysis of one or both sides (absence of facial movement in upper and lower face) = 1, Partial paralysis (total or near total paralysis of lower fold) = 2, Minor Paralysis (flattened nasolabial fold, asymmetry on smiling) = 3, Normal = 4

9. Walking capacity

Unable to walk = 1, 2 times before= 2, 3 times before=3, 4 times before=4, 5 times before=5

10. Pain

Severe pain, patient usually experience muscle pain, which is extremely distressing. Patient probably limited in his work and recreation activities or may be partially or fully disabled =1, Moderate pain, patient often experience tenderness, or chronic muscle pain that is very distressing and somewhat debilitating. = 2, Mild pain, patient sometimes experience mild muscle pain which cannot be directly attributed to activities involving exercise = 3, Normal, no pain = 4

11. *Vibandha*

Severe constipation, Bowel movements are extremely difficult, fecal matter is usually dry and hard. = 1**,** Moderate constipation, often has problems with constipation sometimes periods of three or more days without a bowel movement. = 2**,**

Mild constipation, sometimes have minor problems with constipation but never go more than 2 days without having a bowel movement = 3**,** Normal = 4

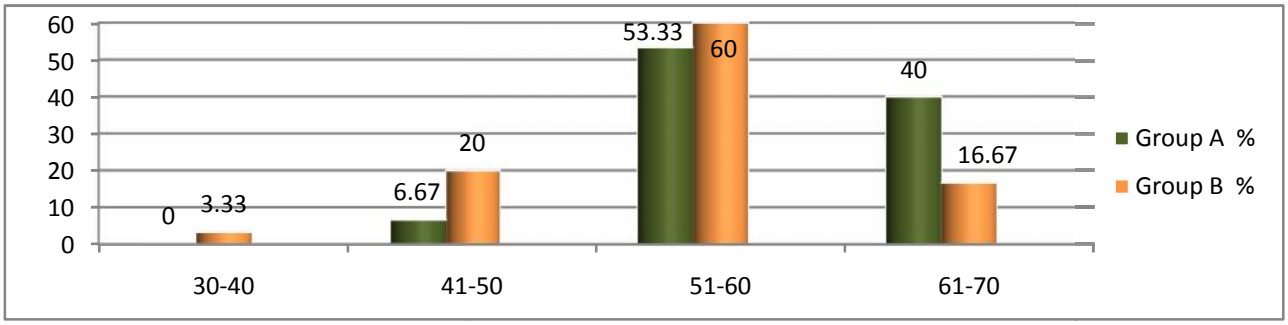
Statistical Test

For assessment of effect of therapies on individual criteria Wilcoxan ranked sign test is adopted, it is utilised as follows, [18]

- Each paired difference calculated, di= xi − yi, where xi, yi are the pairs of observations.
- Differences are ranked without regards to sign in ascending order
- Signs (+/-) to the ranks restored
- Sum up the +/- ranks to get W+/W-
- (As a check the total, W^{+}+ W−, should be equal to n (n+1)/2, where n is the number of pairs of observations in the sample).
- The data obtained were analyzed using SPSS version 21.0 software. Results were expressed in frequencies and percentages.

RESULTS:

1. Age wise distribution



In present Research study in Group A 6.67% patient from Age group 41 to 50 years, 53.33% patient from 51 to 60 years Age group, and 40% patient from 61 to 70 years Age group. In Group B 3.33% patient from Age group 31 to 40 years, 20% patient from 41 to 50 years Age group, and 60% patient from 51 to 60 years Age group and 16.67 % patient from 61 to 70 years Age group. From above observations, it is clear that incidence of *Pakshavadha* increases in this senile age group as provoked *vata* acts as a predisposing factor. The textual screening also verifies the above observation.

2. *Shareera Prakruti* wise distribution

Mass patients in this clinical trial attribute *Vata-Pitta Prakruti* 100% in Group A and 76.67% in Group B, *Pitta Kapha Prakruti* were 20% in Group B

3. *Koshtha and Agni* wise distribution

While studying the patients in respect to *Agni and Koshtha* it was found that maximum number of patients were having *vishamagni* 43.33% and 36.67% in Group A and B respectively and *krura koshtha* 36.68% & 40% correspondingly in Group A and B. This shows the dominance of *vata* in predisposing this condition.

4. Affected part wise distribution

A greater portion of patients presented with Left side Hemiplegia 63.33% and 53.33% in Group A& B respectively, 33.67% & 46.67% patients from Group A & B respectively affected with Right side Hemiplegia.

5. Chronicity wise distribution

A wide variation was observed, i.e., the patients presented from 1 year of onset to 1o years of chronicity. Maximum patients had a chronicity of 2-6years. The reason could be majority of the patients had previously taken allopathic medicines and then not seeing any further hopes for recovery.

6. Chief complaints wise distribution

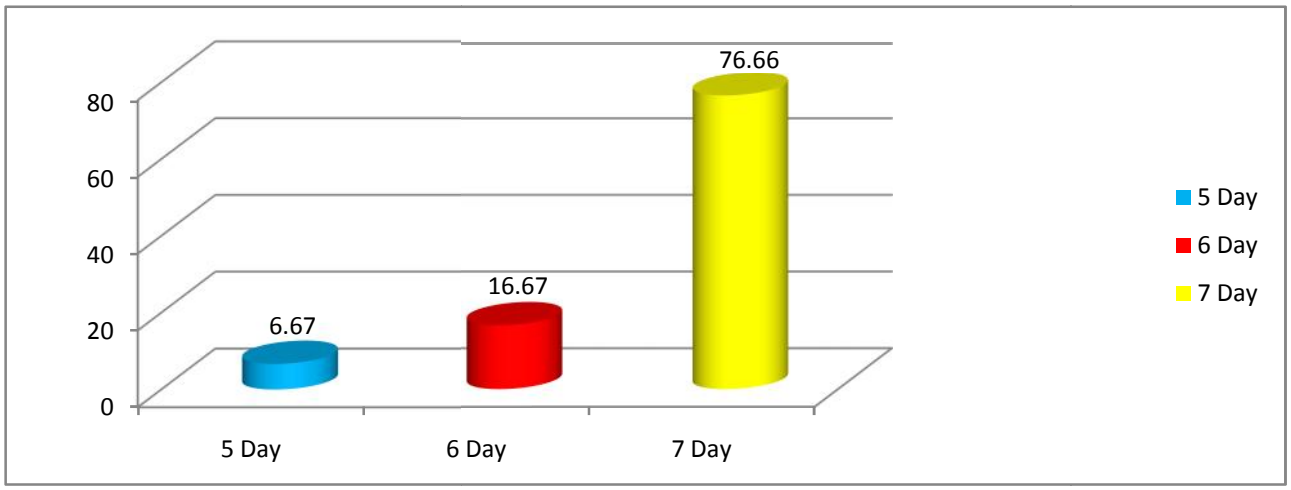
Loss of voluntary movement observed in 6.66% patients of Group A & 36.66% of Group B, weakness 96.66% in Group A & 63.33% of Group B, Loss of Sensation 6.66% in Group A & 36.66% of Group B, Feeling of cold 50% in Group A & 36.66% of Group B, Feeling of warmth 33.33% in Group A & 43.33% of Group B, Numbness 46.66% in Group A & 86.66% of Group B, Tingling 83.33% in Group A & 90% of Group B, Heaviness 80% in Group A & 40% of Group B, Itching 33.33% in Group A & 50% of Group B, Aphasia 3.33% in Group A & 16.66% of Group B, Dysarthria 16.66% in Group A & 13.33% of Group B, Difficult Speech 16.66% in Group A & 23.33% of Group B, Visual Disorder 6.66% in Group B only, Urine Incontinence 30% in Group A & 10% of Group B,

8. Associated complaints wise distribution

Headache was observed in 10% patients of Group A & 40% in Group B, Vertigo observed 13.33% in Group A & 36.66% of Group B, Tremors 36.67% in Group A & 26.66% in Group B, Contracture 36.67% in Group A & 6.66% in Group B, Deviation of eye 3.33% in both groups.

9. Distribution according to Days required for *Snehapana*

6.67% Patients achieved *Samyak Snigdha Lakshana* in 5 days, 16.67% in 6 days & 76.66% in 7 days



10. *Vaigic Shuddhi* wise distribution of Group A patients

6.67% Patients achieved *Pravara Shuddhi*, 93.33% patients attain *Madhya Shuddhi*

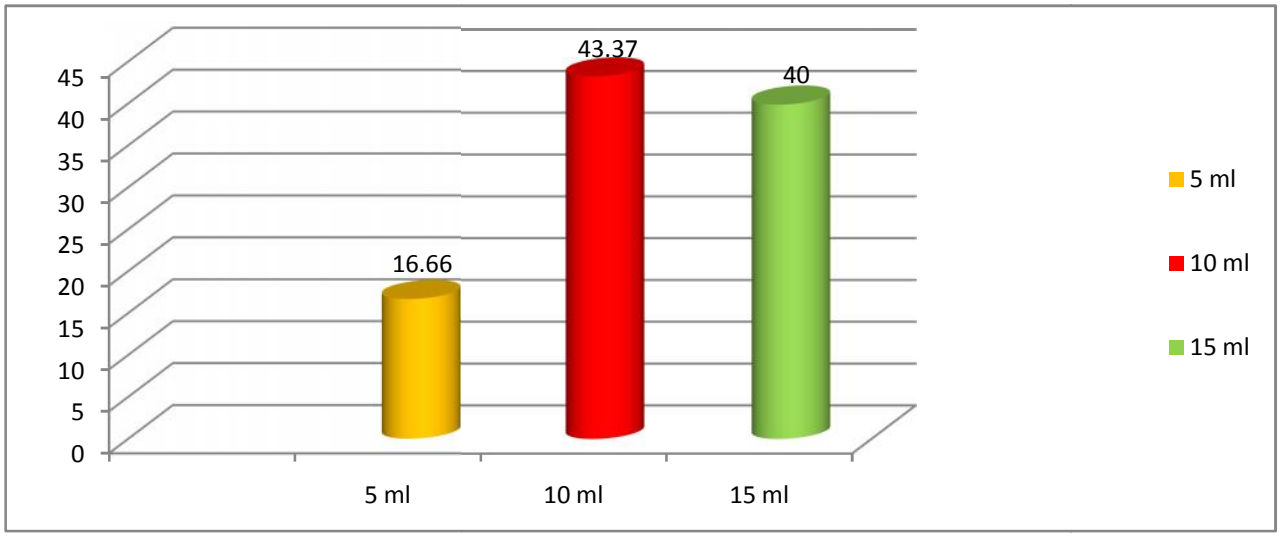
11. Distribution according to Days required for *Sansarjana Krama*

30% Patients required 5 days for *Sansarjana Krama, 50% required 6 days & 20% required 7 days.*

12. Distribution according to intake of *Eranda Taila*

16.66% patients administered with 5 ml of *Eranda Taila*, 43.37% with 10 ml and 40% with 15 ml.

13. Wilcoxan values expressing result of therapies on both groups



1. Effect On Power Score

Shodhan therapy judged more rational in improving the power of both the limbs than Shaman therapy. *Pakwashaya* is main seat of *Vayu*, which conquered by *virechan*. Regional effects shows better results and hence lower limb might have showed more improvement. The muscle strength might have achieved by *Vatanashak, Balya, Bruhaniya*, and *Dhatuvardhaka* properties of *Ashvagandha Ghruta.*

2. Effect On Hand Grip Power

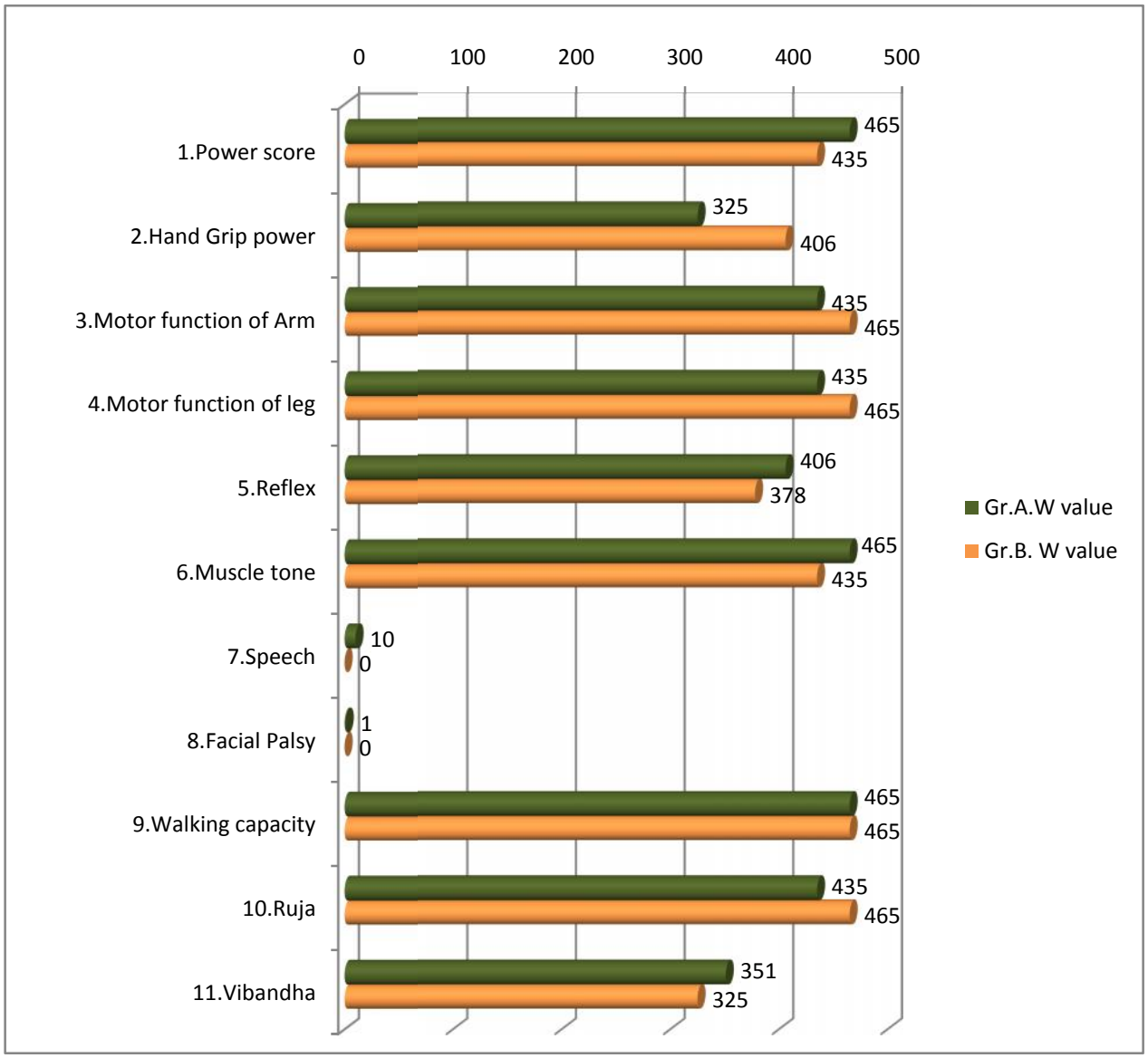
Here *Shaman* therapy proved more potent in increasing Hand Grip Power than *Shodhan*.

3. Effect On Motor Function Of Arm & Leg

Considerable improvement noted in Motor function of Arm & Leg in Group A implementing *Shodhan Chikitsa* than *Shaman Chikitsa*.

4. Effect On Reflexes

Reflexes showed significant improvement in both the group. In Group A, improvement was higher than in Group B. This improvement was due to the pacification of *Vayu*, which was aggravated.



5. Effect On Muscle Tone (Rigidity)

Increased muscle tone seen in both groups. Both results are statistically significant. Rigidity can co-relate with *Stambha*, which may occur when *Kapha* obstructs *Vayu*. *Virechana* by acting on obstruction of *Vayu* might have helped in increase in muscle tone. *Sarvaanga Abhyanga* and *BaaspaSweda* have also much role in the relief of increased muscle tone or rigidity.

6. Effect On Speech & Facial Palsy

Neither *Shodhan* nor *Shaman* showed improvement in Speech & Facial Palsy in both groups. Might due to shorter regimen of treatment schedule, or it require different drugs acting on them?

7. Effect On Walking Capacity

Considerable increase in walking capacity of patients exhibited in both groups. Both treatment modalities amenable of *Vata Shaman*, which yields

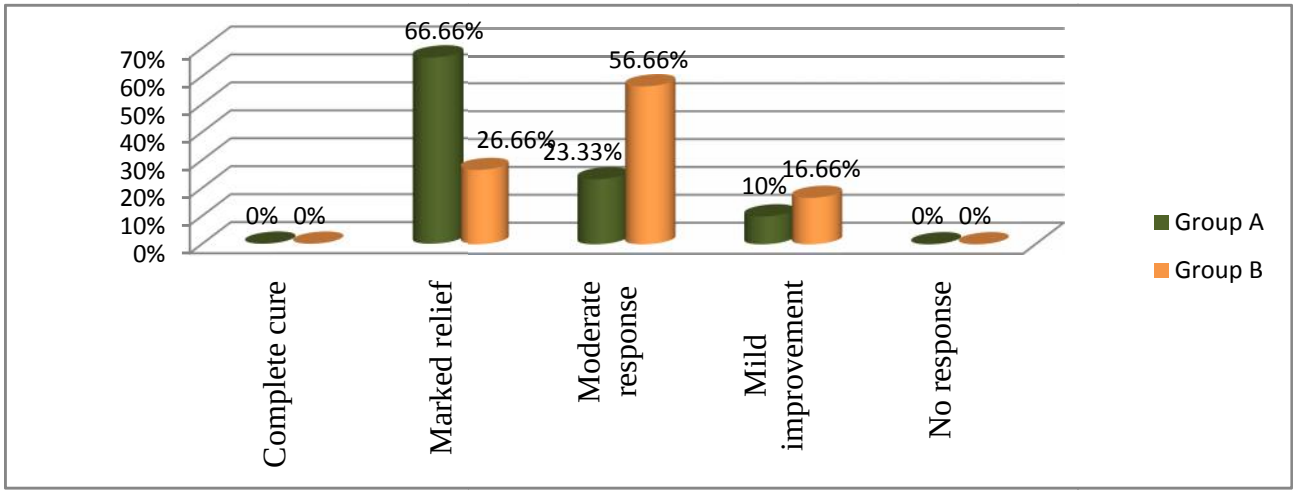
in improved walking capacity. Here role of *Bahya Snehan* and *Svedana* is more important.

8. Effect on *Ruja:*

Outstanding result obtained regarding Pain submission in both groups of Patients. *Vatahara* properties of treatment modalities cause *Vata shaman*, *Bahya Snehan* and *Svedana* cause notable action in pain relief.

9. Effect On *Vibandha*

Both the therapies evaluated to be almost equally efficacious in relieving the constipation. *Anulomak* properties of scheduled drugs cause *mala nirharana*; this shows the *Anolomaka* property of therapies supports the action on *Apana Kshetra* and their stringent role in pacification of *Apana Vayu dushti*.



14. Overall response of Therapy

Noteworthy results observed in both the therapies. In overall assessment, *Virechana therepy* adopted in Group A patients proved more efficacious than *Shaman therepy* advocated in Group B. Marked relief achieved by patients in Group A is 66.66% and in Group B is 26.66%. Moderate relief achieved by patients in Group A is 23.33% as that in Group B is 56.66%. Mild improvement occurred in Group A patients was 10% and in Group B was 16.66%. 0% Patients get complete cured & 0% patients got no response.

CONCLUSION

Peak incidence of the disease is found in senile age. The *Nidaana* for *Pakshavadha* due to CVA are *Divaaswapna, AtiChintaa, Avyaayaama, Guru – Tikshna Bhojana, Ati LavanaSevana, Raatrijaagarana, Adhyashana,* Tobacco, smoking and *AtimadyaPaana*. *Shodhan (Virechan) Chikitsa* is more consistent in the management of *Pakshavadha* than *Shaman Chikitsa* alone. *ErandaTaila with Payas*, *Sarvaanga Abhyanga*, *Sarvaanga Naadeesweda* significantly improves the signs & symptoms of *Pakshavadha* as well as the activities of daily livings there by making better the quality of life of the patients. However better result can be obtained if the above therapy is administered after *Virechana Chikitsa.* Considering the deep-seated nature of the disease, its chronicity, involvement of a main *Marma (Shira)* longer duration of therapy may be required for even more results that are admirable.

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