ABSTRACT

Pakshaghata denotes the impairment of Karmendriya, Gyanendriyas and Manas of half part of body which may be either from head to toe or from mid of the body. Ingestion of Shita, Ruksh, Laghu Ahara, Katu, Tikta rasa Ahara, excessive activities, wake up at night, stress, chronic disorder, physical trauma, excessive walking or exercise, excessive loss of Dhatus, Vega Dharana, heavy weight lifting are some of nidan of Pakshaghata. The clinical features are Chestanivritti, Vaktradavakra, Sirasnayuvishosha, Vakstambha, Sphoorana of Jihva, and Chetanansha. Vata Dosha gets vitiated due to the indulgence of various diet and regimen then Dosha would accumulate in Rikta Srotas in the body and produces Pakshaghata. Pakshaghata can be correlated with hemiplegia. The drugs used in the treatment have the properties of Vata-Kaphashamaka, Amaapachaka, Srotoshodhak. Ayurvedic Chikitsa Siddhanta includes Nidana Parivarjana, Shamana Chikitsa, Shodhana Chikitsa which is believed to impart radical elimination of disease causing factors and maintain the equilibrium of doshas.

Keywords: Pakshaghata, Ayurveda, Dosha, Srotas, Chikitsa.

INTRODUCTION: Pakshaghata is a difficult curable disease. According to ayurveda paksha means half part of body which may be either from head to toe or from mid of the body where we can divide in upper half and lower half and “Aghata” or “paralysis” denotes the impairment of Karmendriya, Gyanendriyas and Manas. Gyanendriyas are considered as part of the Sangyavahasrotas (sensory system) and Karmendriya are considered as part of the Cheshtavahasrotas (motor system) and Manas is supposed to control and guide the both, Gyanendriya and Karmendriyas. Acharya Charaka mentioned Pakshaghata under Nanatmaja Vata Vikaras and Acharya Sushruta mentioned it under Ashta Mahagada. According to sign and symptoms pakshaghata is compared with Paralysis in modern science. The common cause of Paralysis is stroke. The prevalence of stroke in India ranges from 40 – 270 per 100,000 population. Stroke sometimes referred to as a Cerebro-vascular accident (CVA), Cerebro Vascular Insult (CVI) is the loss of brain function due to disturbance in the blood supply to the brain. Brain is the one of the three Marmas and it is mainly affected in the diseases of Pakshaghata. Paralysis or palsy literally means to relax, implies a total or partial loss of either motion or sensation or of both in one or more or all parts of the body and also palsy is defined as loss or impairment of voluntary muscular power.

MATERIALS AND METHODS: For this conceptual study the available literatures are collected through Ayurvedic authentic text mainly Charaka Samhitha, Susrutha Samhitha, Astanga Samgraha, Astanga Hridaya, Bhava Prakasha, Madhava Nidana, Vangasena Samhita, Bhela Samhita and Kasyapa Samhita, with their respective commentaries, various books, articles and online data base.
**NIDANA**

<table>
<thead>
<tr>
<th>Aharajanya nidana</th>
<th>Excess intake of rukshagunaahara, Intake of laghu and shitagunaahara, Excess intake of katuraspradhanahara, Less quantity food Anshana and alpasana, Atimatrabojana Ajeernabojana, Vishamashan, Adhyashana</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viharajanya nidana</td>
<td>Ativyayava, Atiratrijagrana, Divashayan, Suppression of apanavayu, Ativayam, Atiplavana, Dukhshaiyya, Dukhasana</td>
</tr>
<tr>
<td>Aagantuja nidana</td>
<td>Abhighata, Marmaghata</td>
</tr>
<tr>
<td>Manas nidana</td>
<td>Kama, krodh, bhaya, chinta etc.</td>
</tr>
<tr>
<td>Season &amp; time provoking vata</td>
<td>Sharad ritu, Bhuktante, Jeernante end of day and night</td>
</tr>
<tr>
<td>Nidanarthanakar disease</td>
<td>Dhatukshaya, Ama, Rogatikarshan, Madhumeha, Hypertension Cardiac disease</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>Atiraktamokshana, Vegavarodh, Dhupan, Prameha or madhumeha</td>
</tr>
</tbody>
</table>

There are two major categories of brain damage in stroke viz. Ischemia and hemorrhage, which result in the destruction of brain tissue via abnormalities in the blood supply of brain.

Major causes- Age, Obesity, Smoking, alcohol, contraceptive pills etc., disease processes like hypertensive encephalopathy, vascular disorders, infective disorders of brain tissue, tumours or abscess, trauma, internal artery occlusion, diabetes mellitus, heart disease, dyslipidemia, coagulopathies.

**RUPA:**

- Chestanivritti/Sharirardhaakarmanyata (impairment of motor function)
- Achetna/vichetna (loss of consciousness)
- Sandhibandhanvimoksha (weakness of muscles)
- Vakstambh (slurring of speech)
- Vaktradavakra (mouth deviation)
- Sphoorana of Jivha (fasciculation of tongue)
- Ruja (pain)
- Sirasnayuvishoshva: (Exaggeration of knee jerk, Exaggeration of bicep reflexes)
- Daha/Santap/Murchha

**SAMPRAPTI:** In Ayurvedic texts, it is mentioned that the Margavarodha, Marmabhigahata, and Dhatukshaya lead to the Pakshaghata. There is involvement of Sira, Snayu and Dhamani in the pathogenesis of Pakshaghata. Avarodha (obstruction) is usually due to secretion of Kapha, or Aama. Pakshaghata occurs mainly due to vitiation of Vata Dosha and it may be associated with Pitta or Kapha Dosha. Vata is the main culprit. Dushyas are Sira, Snayu, Sandhi. These are Upadhatu of Medhodhatu. Therefore in patients of Pakshaghata medodhatu and mamsadhatu shosha takes place, so Uttarottar dhatus will not be nourished properly. Asthi dhatu are the ashraya of the Vata dosha and the vitiation of Vata hampers the nourishment of asthi dhatu, which further affect the sandhi also. According to Acharya Vagbhata, vitiated Vata Dosha affects one half of the body which causes dryness of Sira (veins) and Snayu (tendons) which leads to Pakshaghata. Vama or Dakshina Chestanivritti is the main cardinal feature of Pakshaghata and this manifestation is due to the pathogenesis of Margavarana or...
Dhathu kshaya. Modern medical science attributes this condition as damage to brain or CNS structures caused by abnormalities of the blood supply.

**TYPES:**

**Ekangroga:** By affecting half of the body; aggravated Vata may cause constriction of the vessels and ligaments as a result of which there will be contracture, either of one leg or one hand along with aching or piercing pain. This ailment is called as **Ekangroga** (Monoplegia).

**SarvangRoga:** If the above mentioned morbidity pervades the entire body; then ailment is called as **SarvangRoga** (Paralysis of the entire body). Depending on the region where the paralysis has occurred, it can be classified in the following types:

- **Monoplegia** - In which only one limb, hand or leg is affected
- **Hemiplegia** - In which only one side of the body is affected
- **Paraplegia** - In which both the trunk and the legs are affected
- **Quadriplegia** - In which the trunk and all the four limbs are affected

**SADHYATA – ASADHYATA:**

- Pakshaghata caused due to aggravated vayu associated with pitta or kapha – Sadhya
- Pakshaghata caused due to aggravated vayu – Krichasadhya
- Pakshaghata caused due to raktadi dhatukshaya – Asadhya
- Vedna raheet (painless) Pakshaghata – Asadhya

**INVESTIGATION**

1. Baseline investigation
   - Full blood count, ESR
   - Blood sugar and urea, creatinine
   - Serum electrolytes and proteins
   - x-ray chest
   - ECG and ECHO
   - Carotid Doppler
   - Lumber puncture

2. Special investigation (especially in young people)
   - Antinuclear antibody for SLE, Rheumatoid arthritis
   - Antibodies to double stranded DNA (SLE)
   - Anticardiolipin antibodies (SLE)
   - Serum cholesterol

3. CT Scan

**UPADRAVA**

- Oedema (Shoth)
- Loss of tactile sensation (supta twacha)
- Fracture tremor
- Flatulence
- Pain

**TREATMENT:** The line of treatment mentioned by Acharya Charaka for Pakshaghata as “Swedanamsnehasamyuktampakshaghatte Virechanam”. The drugs used in the treatment have the properties of:

- **Vata-Kaphashamaka**
- **Amapachaka**
- **Srotoshodhaka**

As a result of these properties, vitiated channels become purified when treated with these drugs. Drugs should have properties of NadiBalakaraka and NadiUttejaka. According to Ayurveda pharmacodynamic properties of drugs which have ability to pacify vitiated vata, pitta and kapha dosha are as follows:

- **VataDosha** - Madhura Rasa, SnigdhaGuna, UshnaVeerya and MadhuraVipaka should be used.
- **Kapha Dosha** - Tikta, Katu, Kashaya Rasa, Laghu Guna, Ruksha Guna, UshnaVeerya and KatuVipaka.
Pitta Dosha - Madhura Rasa, SnigdhaGuna, SheetaVeerya and MadhuraVipaka. Pakshaghata can be better managed by the ayurvedic principles of management namely:

1. NidanaParivarjana:
2. ShamanaChikitsa:
3. Shodhana Chikitsa:

Nidan Parivarjan: This is to avoid the aetiological & risk factors which causes vitiation of Vata dosha as like Shita, Ruksh, Laghu ahara, Katu, Tikta rasa ahara, excessive activities, ratri jaagran, chinta, chronic disorder, physical trauma, excessive walking or exercise, excessive loss of Dhatus, Vega dharana, heavy weight lifting etc should be avoided.

Shamana Chikitsa: The principle of Shaman therapy is to normalize and maintain the equilibrium of all the Doshas. As per Ayurvedic text many Ayurvedic formulations have been given to pacify the Vata Dosha as like:

<table>
<thead>
<tr>
<th>Bhasma</th>
<th>Brihata vatchintamani rasa</th>
<th>vatashamak and nerve stimulant due to their ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ekangeer rasa</td>
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<tr>
<td></td>
<td>Rasraj rasa, Yogendra rasa</td>
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<td></td>
<td>Rajat bhashma</td>
<td></td>
</tr>
<tr>
<td>Churna</td>
<td>Ashwagandha churna,</td>
<td>Medhya and Bringhana Property</td>
</tr>
<tr>
<td></td>
<td>Rasanadi churna</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Saraswatha churna</td>
<td></td>
</tr>
<tr>
<td>Kashaya</td>
<td>Rasnasaptak kwath</td>
<td>Mainly in hemorrhagic stroke because of its Pitta Shamaka property</td>
</tr>
<tr>
<td></td>
<td>Maharasnadi kwath</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dashamoolkashaya</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mahamanjishtadikashyam-</td>
<td></td>
</tr>
<tr>
<td>Tail</td>
<td>Bala tail:Mahamash tail</td>
<td>Vatashamaka</td>
</tr>
<tr>
<td></td>
<td>Maha narayan tail</td>
<td>Lubricates and softens the doshas</td>
</tr>
<tr>
<td></td>
<td>Ashwandha tail</td>
<td></td>
</tr>
<tr>
<td>Ghrita</td>
<td>Dashamooladi ghrita</td>
<td>Vatashamaka</td>
</tr>
<tr>
<td></td>
<td>Chitrakadi ghrita</td>
<td>Improves strength</td>
</tr>
<tr>
<td>Vati</td>
<td>Yoga Raja guggulu,</td>
<td>Vatahara and Bringhana property</td>
</tr>
<tr>
<td></td>
<td>Trodasang guggulu</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Punarnavadi guggulu</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Kaishor guggula</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Simhanand guggula</td>
<td></td>
</tr>
<tr>
<td>Asava and Arista</td>
<td>Dasamoolorishta,Balarishta</td>
<td>UshnaVeerya and Vatahara</td>
</tr>
<tr>
<td></td>
<td>Aswagandharishta</td>
<td></td>
</tr>
<tr>
<td>Rasayana</td>
<td>Chyvanaprasha,Shilajatu</td>
<td>In Avrita vata</td>
</tr>
<tr>
<td></td>
<td>Abhyamaalaki rasayana</td>
<td></td>
</tr>
</tbody>
</table>

Samshodhana Chikitsa: Samshodhan chikitsa envisages Panchakarma treatment which is basically a Bio-cleansing regimen intended to eliminate the toxic elements from the body and thereby enhances the immunity of the body. In Pakshaghata there is obstruction of vata with kapha, pitta, rakta and meda. In addition to this it also clears the intellect, improves the strength of sense organs, improves potential of all Dhatus, increases body strength, improves Agni, and delayed old age.
**Snehana:** Snehana stands for lubrication of body systems by administration of ghrita or tail. Snehana includes Abhyantara Snehana and Bahya Snehana\(^{28}\) which can be done in Pakshaghata. Internal snehana involves taking siddha ghrita or taila especially by vatashamaka drugs, these are used orally to lubricate the body system, soften the doshas, improves digestion, reduce dryness, regularize bowel, aid in removing impurities and improves strength and complexion. External Snehana or Abhyanga can be defined as the procedure of application of sneha Dravya over the body with mild pressure. It improves strength, alleviates vata, the power of muscle increases, removes stiffness, improves muscle tone, provides stimulation to nerves and improves sensory motor integration.

In Hemiplegia, a portion of the brain is damaged due to lack of blood supply and nutrition. The protein and fat metabolism of the body is mainly affected by Snehana. The nervous tissues are closely connected with the fat and protein metabolism (as they themselves contain high level of lipoproteins). Myelin is a lipid rich substance of the cell membrane of Schwann cells that coils to form the myelin sheath around the axon of myelinated nerve fibres. Myelin sheath electrically insulates the axon of a neuron and increases the speed of nerve impulse conduction. The myelin sheath consist principally the myelin lipids, which are composed mainly of cerebrosides, free cholesterol and sphingomyelin together with protein\(^{29}\). So we consider to administer Snehana with the assumption that the Snehana due to its similarity of constitution with the nerve fibre must be helpful in repairing the structural degenerative changes and restore the lost function. Due to Bringhana property of Snehana dravya, it normalise the Vata dosha, relieve pain in body, soothes and enables the nerve to function properly\(^{30}\).

**Swedana:** Swedana is a process to induce sweating artificially in a patient who has already undergone snehana. Swedana liquefies the rearranged Doshas/metabolic wastes and facilitate to bring them to kostha, where they can be expelled out by subsequent Panchakarma procedures. The medicines which produce sweda are generally having properties like ushna, tikshna, sara, snigdha, sukshma, sthira etc. It is best for Vatik disorders and this relieves stiffness of muscle and brings about normal functioning of the blood vessels, muscles and tendons\(^{31}\).

**Virechana:** This process cleans the channels by the removal of accumulated waste products, undigested material and toxins mainly from the gut, which have moved here by swedana. It enhances the appetite, power of digestion and absorption of food. According to Acharya Charka, Virechan karma is the specific treatment for Pakshaghata. Acharya Susruta mentioned mild purgation (MriduVirechana) in Pakshaghata which does Vatanulomana.

Pakshaghata occurring due to Cerebro-Vascular accident has major role of Pitta, Rakta, Kapha and Meda in association with Vata. Virechana is the line of treatment for VataVyadhi condition where Vata is associated with Kapha, Pitta, Rakta and Meda. So Virechana can prove to be very effective in Pakshaghata due to CVA. Virechana removes the Avarana of Vata so that Vayu performs its functions normally. Virechana has been also recommended for the diseases of Raktavaha Srotas. In modern medical science, the osmotic purgative are used e.g. Mannitol, which reduces the cerebral oedema. The same concept is there to follow Virechana.
Besides it, the pathogenesis of Pakshaghata says the Sira-Snayu-Vishoshan which are the Updhatu of Rakta. The treatment of RaktaDusti could be Virechana as Rakta is similar to Pitta. Therefore by maintaining Prakriti of Raktha dhatu, the sira snayu etc. will also be nourished and will do their normal function.

**PATHYA-APATHYA**

**Pathya:**

<table>
<thead>
<tr>
<th>Ahara</th>
<th>Drava varga</th>
<th>Yush, vasa, majja, mannsrasa, gomutra, dhanyamla</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anna varga</td>
<td>One year old shashtikshali, godhumा, navin tail, kulthi mash</td>
<td></td>
</tr>
<tr>
<td>Shakavarga</td>
<td>Shigru, patola, vartaka, rasona</td>
<td></td>
</tr>
<tr>
<td>Dugdhavarga</td>
<td>Dadhikurchika, ghrita, dugda</td>
<td></td>
</tr>
<tr>
<td>Phalavarga</td>
<td>Badara, pakwatal, draksha, dadim, amlarasuykaphala</td>
<td></td>
</tr>
<tr>
<td>Mamsavarga</td>
<td>Varieties of gramaanupa, audak, jangalmamsa</td>
<td></td>
</tr>
</tbody>
</table>

**Vihara**

- Asana, upanahya, swedana, avagahana, basti, mardan, nirvatsthan, sukhoshnaparishek, shirobasti, nasya, agnitaapsevan, brahmacharya, snigdh usna lepa.
- Live in place which has good sunlight, but devoid of direct wind
- Use of silk woollen clothes and soft bedding
- Use of keshar, agar, tejpatra, ela, etc.

**Apathya**

<table>
<thead>
<tr>
<th>Ahara</th>
<th>Diet with katu, tikta, kashaya, ras and ruksha and shita properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dravyavarg</td>
<td>Lake and river water, shitambu</td>
</tr>
<tr>
<td>Anna varg</td>
<td>Tarundhhanya, viruddhaanna, shushkamamsa</td>
</tr>
<tr>
<td>Others</td>
<td>Nishpavabeeja, bimbi, kasheruk, kordusaha, kuruvinda, yava, karir, jambu, kramuka, talphala, asthi-majja, shaluk, tinduk, patrashak</td>
</tr>
<tr>
<td>Vihara</td>
<td>Ativyayam, Ativyavaya, Atibhramana, Vegavidharana, Chhardi, Shrama Anashana, Atigaja, Ashwa, Yanasevan, Raktamokshana, Chinta</td>
</tr>
</tbody>
</table>

**DISCUSSION:** In present era, today’s life style has led to increase the incidence of many vata vikaras like Pakshaghata. Ayurveda because of its most powerful aspect of ‘swasthasyaswasthyarakshanam’ has a big role to play in prevention of many disease as well as Vata vyadhis. Ayurvedic principles of Ahara-vihara, Dincharya, Ritucharya and Achara Rasayana are effective in prevention of Pakshaghata.

**CONCLUSION:** Though Pakshaghata is difficult to manage, but if proper treatment is given at appropriate time with logical use of shaman and shodhana chikitsa, good results are obtained. Samshaman consist of conservative treatment while sanshodhana is a bio-cleansing regimen. Snehana corrects the shuskadhatus that are the root cause for the vitiation of vata and imparts strength to the body and agni. Swedana relieves all types of Vata symptoms and smoothens the body part. Virechana does Vatanulomana and removes Avarana of Vata. Repetitive uses of these three karmas are essential for the total control of Vata and restoration of normal functions as chances for recurrence of the disease so treated are remote. In this present article Ayurvedic approach in the management of Pakshaghata is discussed in a scientific way.
REFERENCES:


18. Khare Manish, Role of Rasona Pinda in the management of pakshaghata w.s.r. to
27. Arun Gupta and Katara Pankaj, Review of Pakshaghata, s.r to Cerebrovascular Accidents and its Management, Int J Ayu Pharm Chem 2015 vol.4 issue 1

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