



## Review Article

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### A HOPE FOR POST STROKE DISABILITY AND UNANI SYSTEM OF MEDICINE: AN OVERVIEW

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#### ABSTRACT

Stroke is the worldwide health problem; in United Kingdom it is the biggest single cause of disability. It accounts for 12.6 million people suffers from moderate to severe disability every year. Recent evidence suggests that 72.7% of stroke survivors in rural India have severe disability and unmet needs for stroke care. In Unani system of medicine Falij (hemiplegia) had been described in conceptual manner with full description of disease and treatment. Although paralysis may occur at any age, time, in either sex but paralysis mostly affects people having Barid Mizaj (cold temperament). Falij (hemiplegia) usually occurs due to Sudda (Obstruction), waram (inflammation), Imtila (congestion), and Burudat (coldness), which obstructs the passages of Rooh in the Asb (Nerves). As the conventional medicine has no answer yet for the treatment of post stroke disability, we had a tremendous scope in its successful treatment. The present paper provides the glimpse of different types of treatment mentioned in Classical Unani text. Principal of treatment of Falij (hemiplegia) in Unani Medicine varies according to the underlying etiology and derangement in Mizaj (temperament).

**Key words:** Falij, Stroke, Hemiplegia, Mizaj, Unani

#### INTRODUCTION

Stroke is defined as “a sudden focal neurological syndrome, specifically the type caused by cerebrovascular disease.”<sup>1</sup> One of the dreadful sequel after stroke is post stroke disability, according to WHO, 15 million people had stroke annually, of which 5 million die, and 5 million left permanently disabled which causes a tremendous burden on family and community. Stroke is the biggest single cause of major disability in the United Kingdom.<sup>2</sup> In India Indian Council of Medical Research calculated in 2004 that stroke is the main source to increase the death number about 41 %, and the number of strokes will be increased from 1,081,480 in 2000 to 1,667,372 in 2015.<sup>3</sup> Major risk factors of stroke are hypertension, atherosclerosis of carotids, and cerebral arteries. Stroke can be reduced up to 40% by treating hypertension alone. In developed countries graph of stroke incidence now decline because of better management of hypertension and reduced level of smoking, but increases in developing countries.<sup>2</sup> In the world about 12.6 million people have moderate to severe disability after experience a stroke and of this, 8.9 million are from low and middle income countries.<sup>3</sup> The acute management of stroke had been focused and well scrutinised, but when it comes to the rehabilitation of long survivors, conventional medicine have no answer yet, they just refer to the patient to rehabilitation programme such as physiotherapy, which also has no significant role to play as Ngan-Hing L. quoted that physiotherapy intervention either at home or outpatient may affect or improve the gait speed but not to be clinically significant and hard to maintain.<sup>4</sup> As modern medicine does not extend good treatment in post stroke disability, patients generally revert to alternative medicine for alleviation their disability, as Prasad et al. maintains that having treated for acute management of stroke in modern hospitals, about 90% patients seek for alternative medicine.<sup>5</sup> Falij, which strongly simulate with symptomatology of hemiplegia, has been extensively described in Unani texts and can be easily correlated

with Stroke. Falij is an Arabic word comes from Falij which means “dividing into two equal parts”<sup>6</sup> or as Istarkha (weakness or paresis) of any organs.<sup>7</sup> According to Unani terminology, it can be defined as “paralysis of longitudinal half of the body in either side from neck to toe sparing the head accompanied with motor and sensory functions loss.”<sup>6, 7, 8</sup> Unani medicine is enriched with lots of literary materials dealing with the management of Falij and in recent years many clinical trials have been conducted on Falij and substantially proved the potential of Unani medicine in the treatment and post stroke rehabilitation of hemiplegic patients. Thus, it concludes that Unani medicine can play an important role by improving quality of life of stroke patients.

#### Sign and symptoms

If the whole body is paralysed except face, it indicates that the effect of Madda (organic matter) is on the first vertebrae of spinal cord. If the whole body including face is paralysed it means the Madda-e- Marz (disease causing organic matter) is related to brain. Some of major symptoms related to Falij are describe as follows.<sup>9</sup>

1. Sudden onset of severe headache
2. Dilatation of neck veins
3. Cold extremities
4. Palpitation and muscle twitching
5. Heaviness in limbs and difficulty in movements
6. Gritting of tooth during sleep

#### Etiopathogenesis

Normally, brain executes its functions under Quwwat Nafsaniya (mental faculties) which is again divided into two major types: Quwwat Mudrika (receptive faculties) and Muharrika (motor faculties).<sup>10</sup> If any of these Quwa (faculties) is affected neurological deficits will occur. The major risk factors, which lead to etiopathogenesis of Falij are old age, cold weather and temperament, Imtila (congestion), Laqwa (facial palsy), alcohol

and more Balgham (phlegmatic) producing foods which ultimately leads to Sudda (obstruction) in A'saab(nerves) and Butun-e-Dimagh (brain ventricles). Buqrat, Ibn Sina, Majoosi, and other eminent Unani physicians are opined that age is strongly associated with increased occurrence of *Falij*, usually between 40-60 years of age, as temperament in old age turns cold and dry and thus they have higher tendency to develop *Falij*.<sup>11, 12, 13</sup> Ibn Sina adds that "Middle aged individuals above fifty years are much susceptible to have *Falij* due to Nawazil (catarrhal fluids), and Imtila ur Raas (head congestion).<sup>6</sup> Inactivity and alcohol intake produces Imtila (congestion), and Imtila causes rupture of vessels.<sup>6, 11</sup>

As far as Sudda(obstruction) is concerned, it mainly occurs due to Ghaleez and Luzj Rutubat in nerves, arteries, veins and Butun-e-Dimagh (brain ventricles) which creates obstacle in pathway of Roohe Hassasa (sensory pneuma) and Muharrika (motor pneuma), and prevents their entry into the affected organs, and ultimately *Falij* is resulted. Besides this, Zarba wa Saqta (trauma or apoplexy), Qata-e- A'saab, Sue Mizaj and waram (congestion) are the other causes of *Falij*.<sup>6, 7, 10, 14</sup> Hararate Ghariziya (innate body heat) is an important tool to protect the human body from the diseases, and as it decreases as age advances, causes dominance of Burudat (coldness)<sup>10</sup> which paves a suitable ground for developing Ghaleez Luzj Khilt (thick viscous humour) which causes obstruction in the propagation of Rooh in A'saab (active pneuma in nerves).<sup>6, 7, 10, 14</sup>

#### Matter of Sudda

The pathogenic matter of Sudda (obstruction) is Ratab (wetness) in nature, mostly Ghaleez Balgham (thick phlegm), which descends from Butun-e-Dimagh (brain ventricles) into all nerves and hampers the propagation of Rooh.<sup>7</sup>

#### Causes of Sudda<sup>15</sup>

1. Upon ligating an organ in such a way that blocks the passage of Quwa-e- Hassasa (sensory faculties) and Muharikka (motor faculties) in the nerve will lead to paralysis of that organ.
2. Deposition of the Ghaleez Luzj Rutubat (thick viscous humour) in A'saab (nerves) which blocks the *Manafiz* (pores) of Quwa (faculties).
3. Warm Baarid or Haar (inflammation due to coldness or hotness) of spinal cord or any organ.
4. Trauma to the roots of A'saab (nerves) may result in extraneous pressure and obstruct the route of Quwa (faculties).
5. Dislocation of vertebrae of thoracic or cervical region causing blockage in route of Quwa (faculties). Constriction of A'saab (nerves) due to excessive cold and Ghaleez Johar-e-Asab.

Neurological deficit may include alterations in sensory, higher mental, and motor functions. Higher mental functions are affected such as changes in recalling, thinking, imagination, vision, and speculation. Sensory functions of eye, ear, nose, skin, and tongue are affected in three ways: weakness, deception like diplopia, and loss of function.<sup>1</sup> Motor manifestations are either loss of function or weakness of function, twitching, shivering, yawning, and stretching of Azlaat (muscles).<sup>10</sup>

#### Differential Diagnosis According to Cause

For elucidating the cause of *Falij*, first of all decide whether the onset of disease is sudden or gradual, if onset is sudden then pursue the history of any injury. In case of injury without any other apparent cause, it suggests that nerve is desiccated, and complete desiccation of nerves is untreatable in Unani medicine. If Ma'dda (matter) is cause, establish its nature by the colour of

patient, if whitish, Tarah'hul (flabbiness), increased salivation, excess sleeping, decreased thirst, and urine turns white in colour with increased consistency, denotes *Falij* Rutubi Balghami (hemiplegia due to phlegm). And if touch is hot on palpation, pulse and neck vessels are Mumtali (full in volume) and engorged, face and eyes are reddish, and then it indicates *Falij Damvi*. If *Falij* occurs as a result of Bohraan (crisis) in Sarsa'am (meningitis), Sakta(apoplexy), Sara'a (epilepsy), Ehtinaaqur Reham (hysteria), or chronic fever, this type of *Falij* propounds *Falij Intiqali Bohraani* (hemiplegia towards end of crisis), and *Falij* occurring gradually accompanied with fever and pain in nerves, it is *Falij warmi* (inflammatory hemiplegia).<sup>7</sup>

#### Prevention

Avoid slow digestive heavy and flatulent diets such as Cauliflower, Edible Yam, and Kachaalu; diets with cold temperament like Kaddu (pumpkin), Tarbooz (water melon), and sugar cane juice. Use of cold water and air is strictly prohibited. Room should be kept warm, and the patient should be covered with warm cloths. It is toxic to eat sour things and massage with good smelling substances. Till the morbid matter is not fully evacuated by use of Mus'hil (purgation), do not give patient any diet except Maul Asl; it should be given in place of meal and water regularly. Maul Asl (honey water) is prepared from pure honey, 20 grams and Arq Gaozaban 120 grams; both are boiled, filtered and taken orally.<sup>16</sup>

#### Harmful food in *Falij*<sup>17</sup>

- Alcohol
- Milk
- Paneer
- All cold Mizaj (Temperament) vegetables
- Extensive use of Apple and Pomegranate

We should explain to patient or patient care givers that these type of food not given at any cost as it may be worsening the condition.

#### Usool-e-ilaj (Principle of treatment)

Never use strong (III and IV degree) drugs for initial 4 to 6 days but this duration may be extending up to 14 days depends on severity of *Falij* as it worsens the condition. Prescribed only Gul-e-Angabin Asli (honey rose water) with luke warm water and Ayarij (purgative) mix with Tiryaaq (antidote) 1 gm or simply Maul Asl (honey water) can be given instead of pure water. After 14 days, treat patient with the help of different formulations along with suitable regimens.<sup>17</sup>

At first, the morbid matter is evacuated from the body, for this consistency of morbid matter has to be modified, and drugs used for this purpose called Munzij (concoctive), followed by Is'hal (purgation) by Mus'hil (purgative) drugs for proper evacuation of matter from the body. Is'hal (purgation) is contraindicated in patients of *Falij* before morbid matter treated with Munzij (concoctive) drugs. If there is no fever as a complication of Mus'hil, then again starts Munzij from the next day. In case of right sided hemiplegia, add some Muqawwi-e-Jigar (hepatotonic) drugs, and in left side then adds Muqawwiyat-e-Qalb (cardiotonic). If the disease is severe, Muqawwiyat (tonic) should be given up to 40 days. After Mus'hil; Muqawwi-e-Maida (stomachic) drugs are prescribed in powder form like Mastagi, Zaranbaad, Ood-e-Favana, Ustukuddus with Itrifal and Sharbat Zufa. Anyone of Tiryaaq Arba, Tiryaaq Samaniya, and Jawarish Bladur that suits the patient can be given in *Falij*, taken with Arq Badiyan and Sheera Badiyan. Massage with Roghan Daar Cheeni is very beneficial in restoration of lost functions. In the end of therapeutics, add such drugs which may change Mizaj (temperament) of patient to its normalcy such as Tiryaaq Kabir, Majoon Falasfa, Itrifal Kabir, Majoon Waj, Habbe Azaraqi etc.

Muhallil and Muqawwi Roghan should be applied on the affected side and vertebral column, for better result Jundbedastar, Aqarqarha, or Farfiyun melt in Mom are added. Massage with Zimad of Jozbua along with Zanjabeel and Zaranbaad or oil prepared by Roghan Gul, Farfiyoon, Marmaki and Quste Talkh should be done and both have beneficial effect on restoration of functions. Food and water should be given to the patient only in the state of severe hunger and thirst. When signs of restoration of lost functions seems to be promising, start Riyazat (exercise), and massage vigorously with the help of coarse cloth. <sup>7</sup> Apart from all these single or compound formulation, Unani regimens also play a vital role in the management of Falij. Zakariya Razi once said "I treat the Falij only with Hamam Yabis" from this quote we can understand the importance of regimens. <sup>17</sup>

#### Regimens used in treatment of Falij <sup>17</sup>

- Dalk (massage): This is the most important regimen
- Hijama bila shart/ bish shart (dry/wet cupping)
- Aabzan (sitz bath)
- Nufookh (insufflation)
- Shamoom (smelling)
- Tamrikh (oil massage)
- Tila (liniment)
- Gargarah (gargle)
- Takmeed (fomentation)
- Fasd (bood letting)
- Sau'ot (nasal drop)
- Enema
- Ta'areek (diaphoresis)

The best treatment of Falij is to makes patient tired by extensive Riyazat (physiotherapy/ exercise) and restrain from food. It dissolves the Ghaliz Balgham (thick phlegm) and production of Mirra'h Safra, beneficial for paralysed patient. After Istafragh (evacuation of morbid matter) give Latif ghiza (Light food) along with Takmeed Haar Yabis (hot dry fomentation) as it dissolves the adherent Balgham. Qai (vomiting) is the best regimen in treatment of Falij so doesn't skip that one. If possible than always think about Fasd as it relaxes and calm the body temperament.

#### MA'MULAT-E-MATAB

Patients shall be given decoction of *Munzija-e-Balgham* orally along with *Gulqand* in the prescribed doses once a day in the morning on empty stomach.

#### Munzija-e-Balgham drugs (concoctive drugs) <sup>7</sup>

Following prescription is for general consideration of the disease. We can use in any form of Falij, but in Unani system of medicine different types of Falij has been described with its own classical and unique treatment which are given after the following nuskha (prescription):

Unani name	Botanical name	Dosage
Badiyan	<i>Foeniculum vulgare</i> Mill.	5 grm/day
Maweez (Munaqqa)	<i>Vitis vinifera</i> Linn.	3 in number/ day
Ustukhuddus	<i>Lavandula stoechas</i> Linn.	5 grm/day
Inabussalab	<i>Solanum nigrum</i> Linn.	5 grm/day
Bekh Kibr	<i>Capparis spinosa</i>	6 grm/day
Parsiaoshan	<i>Adiantum capillus-veneris</i> Linn.	6 grm/day
Baikh Karafs	<i>Apium graveolens</i> Linn.	5 grm/day
Baikh Kasni	<i>Cichorium intybus</i> Linn.	5 grm/day
Ood Saleeb	<i>Paeonia officinalis</i>	2 grm/day
Gauzaban	<i>Borago officinalis</i> Linn	5 grm/day
Gulqand	<i>Rosa damascena</i> Mill.	25 grm/day

#### Mus'hil-e- Balgham drugs <sup>7</sup>

Unani name	Botanical name	Dosage
Ustukhuddus	<i>Lavandula stoechas</i> Linn	5 grm/day
Barg Sana	<i>Cassia angustifolia</i>	10 grams/day
Turbud	<i>Operculina turpethum</i>	03 grams/day
Maghz faloos	<i>Cassia fistula</i>	07 grams/day
Roghan Zard	<i>Ghee</i>	5 grm/day

Decoction of *Munzija-e-Balgham* mixed with *Mus'hil-e-Balgham* will be given only for one day in the morning on empty stomach. <sup>7</sup>

#### Treatment of Khala'a (Falij with Laqwa)

In Unani medicine, *Khala'a* (subluxation) is treated differently from Falij only to highlight its importance and it also manifest that the physicians were quiet aware of the associated pathogenesis in Falij with Laqwa (hemiplegia with facial palsy). At first, *Munzija* and *Mus'hil* are administered followed by *Sooranjan*, *Itrifal Saghir* with *Arq Inabussalab*, *Arq Gaozaban*, and *Gulqand* mixed with *Arq Badiyan*. Then decoction of *Daar Chini*, *Gaozaban*, *Anisoon*, and *Badiyan* mixed with *Gulqand* is given to patient. In the end, another decoction prepared from *Sooranjan*, *Bozidaan*, *Ood Salib*, *Gulqand* mixed in *Arq Inabussalab* and *Arq Badiyan* with *Sharbat-e-Ustukhuddus* and *Tukhm-e-Faranjmushk* are prescribed for the management of *Khala'a*. <sup>7</sup>

#### Treatment of Khala'a in geriatric patients accompanied with Ra'sha (tremor) and dysarthria

*Majnoon-e-Falafala* with *Arq Badiyan* should be given early in the morning and *Itrifal Kishnizi* in evening. Make powder of *Waj Turki*, *Aqarqarha*, *Filfil*, and *Zanjabil*, mix with honey and rub it on tongue of the patient, and after some time gargle with lukewarm water. <sup>7</sup>

#### Treatment of Falij with Hararat (hotness) and Humma (fever)

If Falij presents with fever, then for first few days don't treat Falij. Initially *Arq Inabussalab*, and *Arq Gaozaban* with *Khaksi* mixed in sugar should be given; if patient is constipated, then replace sugar with *Gulqand*. Regime like *Qai* (emesis) should be induced from those drugs and foods which poses lytic effects on Balgham (phlegm). Here the main motto is to bring the body temperature to normal level then *Falij* is treated. For this purpose, *Arq Gaozaban* and *Sikanjabeen* is given orally, *Roghan Gul* and *Sirka* should be applied on head, and in food give *Aabe-Leemu* (lemon water) with *Nukhood-wa-Branj*. If temperature is very high, stop *Maul Asl* (honey water) and give *Ma'ushaeer* (barley water) instead, as temperature comes down, treat Falij gradually. <sup>7</sup>

#### Treatment of Falij in view of great Unani physicians

**Buqrat:** Severe Falij is very hard to treat, but at times impossible; even Falij of low intensity is not easily treated. <sup>13</sup>

**Jalinoos:** If *Amraaz-e-Balgahmiya* (phlegmatic diseases) such as Falij (hemiplegia), *Ra'asha* (tremor), and *Sara'a* (epilepsy) etc occurred in childhood, and no treatment seems promising in restoring the lost functions, then as the age progresses the disease is automatically gets faded. He adds that *Shoneez* (*Kalonji*) is very useful in treatment of Falij. In a case report *Jalinoos* says that he prescribed *Shoneez* in the management of Falij: "One day I dipped *Shoneez* in *Sirkaa-e-Sharab* then filtered and fine powdered it and again mixed in *Sirka* (vinegar) and prepared *Saoot* (nasal drops), gave it to the patient which produced good result; next he advised *Saoot* along with *Roghan Zaitoon* instead of *Sirkaa-e-Sharab* which fortified the result in many folds. <sup>13</sup>

**Razi:** The morbid matter should be evacuated every week with Habbe Qoqaya, Jawarish Baladur or Ayarij Hurmus should be given daily to alter the temperament, and massage should be done with Roghan Qust. Habbe Qanturiyun and Safoof Zaravand are also very beneficial in Falij.<sup>7</sup>

**Ibn Sina:** When patients start recovering, starts Riyazat (exercise), massage and Nutool (irrigation) which has the effects of Muhallil (resolvent) and Qabiz (astringent) such as Anisoon, Jundbedastar and Izkhar.<sup>7</sup>

**Jurjani:** Initially strong measures should not be taken; patient should be treated with Huqna(enema), Maul Usool (honey water) and Mus'hilat (purgative). It is wise to remain patient in hunger, if necessity arise Latif (light) diets can be given such as bread with Maul Asl and bird meat.<sup>7</sup>

**Tabri:** He treated a patient having complains of lower limb paralysis and weakness with Majoon Usba and applied Roghan Malkangni, patient recovered within few days.<sup>7</sup>

**Yahoodi:** He states that "I treated many patients with Hamam-e-Yabis (Hamam in which dryness is produced).<sup>13</sup>

**Qusta bin Luqa:** He has described localization of lesion in treatment of neurologic diseases and their prognosis. He maintains that if patient speaks words, the lesion is in spinal cord, and is also easily treatable; if speech is not clear or totally absent, then the lesion is in brain, and is hard to treat.<sup>13</sup>

**Hakim Alvi Khan:** Aa'bzhan (sitz bath) is also effective in strengthening of A'saab (nerves).<sup>7</sup>

## CONCLUSION

Unani medicine has the potential to treat Falij as the classical literature of Unani Medicine is highly concentrated on the subject, enriched with centuries old experiences of eminent Unani physicians. As the conventional system partially alleviates the sufferings of Falij, by adopting these measures in common practise, disease burden may be squarely decreased. It also provides measures that may play a vital role particularly in those persons who are prone to have Falij, and those individuals who have compromised their daily activities due to disability of this disease, which can be managed through various types of available Unani regimes and formulations with potential results.

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