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Scientific Interpretation of Unani Medicinal Approach in Management of Post Stroke Hemiplegia (*Falij*)



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ABSTRACT

Post Stroke Hemiplegia is one of the commonest causes of functional impairment. The condition possesses a great challenge to the modern scientific world. Neuroprotection and Neurorehabilitation are said to be two techniques, giving hope to victims. But the cost of the above said techniques are found to be not bearable for everyone, especially in developing and underdeveloped countries. Unani system of medicine is known to cure the post stroke Hemiplegia on its own concept of *Tanqia* and *Tadeel*. In fact, the concepts of *Tanqia* and *Tadeel* do not really differ from modern day Bio Medicinal approach for post stroke survivors. This paper aims at reviewing the Unani Medicinal concepts of *Tanqia* and *Tadeel* and to scientifically interoperate and validate Unani Medicinal approach in management of Post Stroke Hemiplegia (*Falij*).

INTRODUCTION

Stroke is a syndrome often characterized as the acute attack of a neurologic shortage in blood flow, that holds on for at least 24 hours, ponders focal involvement of the central nervous system, and is the consequence of impairment of the cerebral circulation¹. It is the commonest clinical expression of diseases of the cerebral blood vessels².

The definition of stroke, according to WHO is “rapidly developing clinical signs of focal (at times global) disturbance of cerebral function, lasting more than 24 hours or leading to death with no apparent cause other than that of vascular origin”³.

Stroke was said to be common medical casualty with a yearly incidence of around 180 to 300 per 100000. Roughly 20 million people each year endure with stroke and of these 5 million will not survive. Grossly stroke accounts for about 10% of all deaths in most developed countries².

Stroke is also a major cause of functional impairments, with 20% of subsisters requiring hospital care after 3 months and 15% - 30% costing permanently disabled. According to the American Stroke Association (ASA), approximately 700,000 individuals are diagnosed with a stroke each year, of these individuals, who survive, up to 90% of them report one or more disabilities. The incidence rises steeply with age, and in many developing countries, the incidence is rising because of the adoption of less healthy lifestyles^{2,4}. Almost in all cases of cerebrovascular diseases are manifested by the abrupt onset of a focal neurologic deficit⁵.

The term Hemiplegia is often used in general to refer the all-inclusive variety of motor problems that result from stroke. The location and extent of brain injury, the amount of collateral blood flow, and early acute care management determine the severity of neurological deficits in an individual patient. Impairment may resolve spontaneously as brain swelling subsides, generally within three weeks. Residual neurological impairments are those that persist longer than three weeks and may lead to permanent disability^{6,7,8}.

Prognosis:

Physicians have described several etiologies of paralysis, according to which the prognosis of recovery varies. According to father of medicine Hippocrates (Buqrat) treating *Falij qavi* (strong hemiplegia) is almost impossible and treating *Falij zaeef* (weak hemiplegia) is difficult. If

paralysis is due to the trauma and fall, its treatment is difficult. There is no treatment for paralysis due to the transverse cut of nerves. Paralysis after *sakta* (Apoplexy) recovers minimally. Another scholar Younus stated that paralysis due to vertebral dislocation may be fatal. If the colour (appearance) of paralyzed part is similar to that of healthy parts, and it is not atrophied, then chances of recovery are more as compared to the contrary conditions^{9,10,11}.

Current Treatment of Stroke in Biomedicine

The management in Biomedicine is directed at minimizing the bulk of brain tissue that are permanently discredited, cutting down the danger of recurrence of stroke attack, reducing and preventing complications arising due to stroke by rehabilitation².

Medical support, in acute cases followed by IV thrombolysis and endovascular techniques; antithrombotic treatment is given to resolve any clot present in blood vessels. Neuroprotection and Neurorehabilitation are planned subsequently⁵.

Treatment in Unani Medicine

In Unani medicine the concept of treatment is *Tanqia* and *Ta'deel*. *Tanqia*, the first step in the treatment of *Falij*, is performed by employing *Munzija* and *Mushile Balgham* drugs and *Ta'deel*, the second step, is achieved by the institution of various compound drug preparations along with a range of regimenal procedures e.g. *Inkebab*, *Dalak*, *Hijamat*, *Hammam*^{10,11,13,14}.

Unani Scholars have advocated the use of *Munzija Balgham*, in *Balghami* diseases of Nervous System for the purpose of *Nuzj*. *Nuzj* entails warming the waste matter stepwise for getting them able to be eliminated^{10,11,12}.

Munzija Advia are endowed with properties such as *Tahleel* called as *Muhallil* drugs; *Taqtee* called as *Muqatte* drugs and *Talteef* called as *Dawae Lateef*, constructing the swivel of the first phase of *Tanqia*^{10,11}.

• والمحلل: هو الدواء الذي من شأنه أن يفرق الخلط بتبخيره إياه، وإخراجه عن موضعه الذي اشتبك فيه جزءاً بعد جزء¹⁰

Muhallil drugs have the property to disintegrate the *Khilt* by removing it part by part from its attached sites¹⁰

والمقطع: هو الدواء الذي من شأنه أن

ينفذ بلطافته فيما بين سطح العضو، والخلط اللزج الذي التزق به فيبريه عنه¹⁰

Muqatte are those drugs, which due to their lightness, penetrate into interstitial spaces of the organ, and remove out the *Khilt* adhered with the organ¹⁰.

•

من انفعّل إذا شأنه من الذي هو اللطيف، فالدواء¹⁰

جداً صغيرة أجزاء إلى أبداننا في يتقسم أن فينا التي الطبيعية القوة

Dawae Lateef interacts with body's *Quwwat Tabiya* to divide the morbid matter into smaller parts.¹⁰

Unitedness in approach of two systems

In biomedicine Antithrombotic treatment after stroke is achieved by use of Antiplatelet, Anticoagulant, and Fibrinolytic drugs. *Munziye Balgham* drugs having above said properties of *Tahleel*, *Taqtee*, and *Talteef* clearly resemble action imparted by Antiplatelet, Anticoagulant, and Fibrinolytic drugs.

Neuroprotection is the concept or an effect that may result in saves, retrieval, or regeneration of the nervous system and its cells along with the functions. It works by prolonging the brain's tolerance to ischemia. *Muqqawiyat wa Munaqqi Dimagh* Drugs with the concept of Unani Medicine, are supposed to function with the concept of Neuroprotection^{5,10}.

Neurorehabilitation is a complex medical procedure which aims to aid recovery from nervous system injury, and to minimize and compensate for any functional alterations resulting from it. Use of regimes like *Riyazat*, *Dalk*, *Hammam*, and *Inkebab* may be believed as component of rehabilitation programme through Unani Medicine^{5,10,12,13,14}.

Some studies done on drugs used in USM for treatment of post stroke Hemiplegia have proven that drugs used possess Antithrombotic activity, Neuroprotective and other useful properties. Few are as follows^{10,13}.

Name of drug	Scientific Reports	References
<i>Foeniculum vulgare</i> (Badyan)	Antithrombotic activity, Hypotensive effect (in dose related manner)	15,16, 23,24
<i>Glycyrrhiza glabra</i> (Aslussoos)	Spatial learning improver, Anxiolytic activity, Antioxidant effect, Memory enhancer, Neuroprotective	15,16,17,18,19,20, 21,22
<i>Pimpinella anisum</i> (Anisoon)	Synaptic plasticity enhancer, Neuroprotective, Anticonvulsant, Amphetamine, Antispasmodic effect, Reduced the contractions induced by acetylcholine	15,16,28,29
<i>Lavandula stoechas</i> (Ustukhuddoos)	Spasmolytic effect, Anticonvulsant, Antispasmodic Reduces hypertonicity	15,16,25,26,27
<i>Apium graveolens</i> (Tukhme Karafs)	Relaxes rat thoracic aorta in animal study	15,16,30
<i>Paeonia emodi</i> (Ood Saleeb)	Sedative, Anti-inflammatory, Useful in inflammation, asthma in senile, Tumor angiogenesis and cancer, Spasmolytic activity	15,16,31,32,33
<i>Borago officinalis</i> (Barge Gaozaban)	Leaves alkaloid produces a rightward shift in the Ca ⁺⁺ concentration-response curves like that caused by verapamil.	15,16,34

Ta'deel Mizaj (Normalization of temperament):

After purgation of *Ghaleez Ghair Tab'ee Balgham* with the help of *Mus'hil Advia* phase of recovery and rejuvenation, known as *Ta'deel*. It relates to restoration, normalization and potentiation of normal physiological function after purging out of *Akhlate Raddiyah* from the

affected organ. In this phase of treatment, the altered temperament is brought back to normal by drugs or maneuvering *Tadabeer* (regimes) such as *Dalak* (Massage), *Riyazat* (Exercise) etc. Usually, organs become weak after diseases caused by morbid *Khilt* due to the affection of *Sue Mizaj*. *Muqawwiat* have antagonist properties to those of *Sue Mizaj*. Hence, they normalize the organs to start functioning afresh. *Muqawwiat*, sometimes, acts by *Jauhar* and sometimes by their primary or secondary characteristic^{9,10,11,12,13,14}.

Muqawwiat is the group of drugs, which due to its character or its normal temperament, normalizes the constitution of the organ and temperament so that the organ becomes safe from receiving the upcoming morbid matter¹⁰.

As the *Mizaj* of *Falij* is *Barid Ratab* (cold and wet), drugs endowed with opposite properties to disease i.e. *Haar-Yabis* (hot & dry) should be used to expedite the rejuvenation and restoration of normal temperament. For this purpose the drugs such as *Haar Ma,ajeen* like majoon falasfa, majoon jograj gogul, Majoon Baladur, Itrifal Kabeer, Itrifal waj, Murabba Waj and Haar Haboob like Habe Surkh, Habbe Simab, Habbe Beesh, Habbe Sammul far, is used^{9,10,11,12,13,14}.

Apart from above said drugs regimens such as *Dalk* with *Haar Roghanyat* like *Roghan Qust*, *Roghan Seer*, and *Roghan Malkangani*; *Inkebab* with *Haar Advia* like *Baboona*, *Hulba*, *Zoofa*, *AqarQarha*, *Tukhme Shibbat*; *Riyazat*, *Hijamat Bila shart*, *Shamoom*, *Natookh*, *Natool*, *Zimad* etc. are used for the reinvogation^{9,10,11,12,13,14}.

This phase may be correlated with rehabilitative measures used by conventional medicine and it is that the rehabilitative measures used by them do not properly suit the cases of *Falij* as for example in cases of post stroke gait rehabilitation the approaches used include neurophysiological and motor learning techniques, robotic devices, FES (Functional Electrical Stimulation), and BCIs (Brain Computer Interfaces). But it is believed that the aforesaid techniques are not fully suited for hemiplegic patients because of their limitations to actively participate in such training programs^{5, 35, 36, 37,38,40}.

Studies Regarding managing of post stroke disability with USM

When post stroke Hemiplegia (*Falij*) is treated on the principle of Unani Medicine; the Unani Medicinal concept of *Tanqia* and *Ta'deel* is found to be Effective in Motor Power Improvement,

Relieving of Post Stroke Spasticity, Alleviating the post stroke Gait Disability and in improving overall activities of daily living in post Stoke patients^{44,45,46,47}.

CONCLUSION

By the above discussion, it may be concluded that the approach of USM in post stroke Hemiplegia (*Falij*) is proven to be valid and scientific and recent studies performed on the principles of USM also revalidates the concept of USM.

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