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## *Falij* (Hemiplegia) and their understanding in the past: *Unani* concept

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#### ABSTRACT

*Unani* (Greco-Arabian-Indian) system of medicine (USM) is one of the ancient but effective mode of treatments, still prevails in major part of the world with different names. In recent era it is mainly practiced in Indian sub-continent with different names like, *Unani* medicine, Eastern medicine, Arabic medicine, Prophetic medicine etc. Its roots dated back to Greek era and it was flourish well in the hand of Arabian philosopher. It reached its apex in the middle Ages. *Unani* medicine is known for its unique concept and rational approach for exploring the unsolved and difficult problems of health and diseases. The word *Falij* or *Falij-e-Nisfi* is analogue with "Hemiplegia." which means paralysis in entire longitudinal half of the body from head to foot. The first medical study of the disease palsy is attributed to Ibn Sina/ Avicenna (979-1037 A.D.). In this article authors describe about the concept, risk factors, causes, pathophysiology and classification of Hemiplegia in USM.

**Keywords:** *Falij*; Hemiplegia; Unani Medicine; Greco-Roman Medicine; Avicenna.

#### 1. Introduction

In *Unani* literature description of *Istirkha* (paralysis) is same as that of word *Falij* or *Falij-e-Nisfi* (Hemiplegia). *Falij* is described as a disease causing loss of movement and sensation in longitudinal half of the body because the penetration of *Roohe Hassas* and *Muharrrik* (active Pneuma) into the organs may either be arrested or the *Roohe* (Pneuma) may penetrate but the organs may not respond due to *Sue Mizaj* (intemperament)<sup>[1,2]</sup>. It is a well-known disease since Greco-Arabic period and was first described by Hippocrates, the father of Medicine. After Hippocrates other *Unani* physicians like *Jalinoos/Galen* (129-200AD), *Rabban Tabri* (770/780-850AD), *Sabit Ibn Qurrah* (836-903AD), *Ali Ibn Abbas Majusi* (930-994AD) and *Ibn Sina* described it in detail and mentioned the aetiology, pathophysiology, clinical features, and the treatment of the disease in their treatises. *Tabri* proposed that *Falij* is caused by an obstruction in any part of the brain<sup>[1,2,3]</sup>.

*Falij* is an Arabic word meaning "to halve." In specific meaning, *Falij* indicates *Istirkha* of longitudinal half of the body either starting from the neck sparing head and face or the entire longitudinal half of the body from head to foot<sup>[1]</sup>. Since *Falij* affects one half of the body and leaves the other half unaffected (healthy), it has been named so because of the virtue of dividing the body into two halves; one healthy and the other diseased<sup>[2,4]</sup>.

#### 2. Aetiology

*Falij* is caused by an obstruction in any part of the brain. In *Falij*, the nerves after absorbing the moisture descending from the brain become paralyzed leading to loss of voluntary movements in that part<sup>[5]</sup>. This description draws analogy with hemiplegia occurring due to cerebrovascular accidents or stroke. A stroke (cerebrovascular accident) is a rapidly developing episode of focal, and at times global (applied to patients in deep coma and to those with subarachnoid haemorrhage), loss of cerebral function with symptoms lasting more than 24 hours or leading to death, with no apparent cause other than that of vascular origin<sup>[6]</sup>. In *Unani* literature causes of *Falij* have been grouped into two principal categories<sup>[2]</sup>.

(a). Cause leading to obstruction in the path of *Roohe hassas* and *muharrik* preventing their penetration into the organs. This obstruction, in turn, may be due to any obstruction in nerves or organs or due to breach in continuity of nerves.

(b). Causes making the organs non-responsive to *Roohe hassas* and *muharrik*. In absence of any obstruction and with normal penetration of *Roohe hassas* and *muharrik*, the organs sometimes may not respond to it due to intemperament; leading to loss of sensation and movement in them. This intemperament may be due to abnormally excessive heat, cold, dryness or moist. But this heat and dryness seldom affects movements and sensation except in extreme conditions. But, if the intemperament is due to superfluous cold and moist, it often causes loss of movement and sensation.

*Ismail Jurjani* has mentioned 5 causes of *Sudda* leading to *Falij* [2, 7, 8].

#### (i) External causes

If any part of the body is tied by means of a tight ligature, it would lead to obstruction or obstruction in the pores of the nerves serving as passages for *Roohe hassas* and *muharrik* causing temporary loss of movement and sensation.

#### (ii) Thick and Viscous fluid

Any thick and viscous fluid gains entry and gets collected in nerve cells and obstructs the routes or passages of *Roohe hassas* and *muharrik*. Mostly this fluid is phlegmatic in nature, which descends from the ventricle of brain into the nerves, their origins or their branches [10].

#### (iii) Inflammation

If there is inflammation in any organ, the inflammatory materials may obstruct the passages of *Roohe hassas* and *muharrik*.

#### (iv) Injury and Bruises

Compression and contusion of nerves as a result of fall or blow over their roots can also obstruct or block the passages of *Rooh* (pneuma).

#### (v) Inclination or deviation of vertebrae

Inclination or deviation of any vertebrae towards right or left side may lead to contusion or compression of the nerves emerging from the spinal cord, blocking the routes of the *Rooh* [2].

#### In addition Hakeem Akbar Arzani has added two more causes of obstruction [7, 8, 9].

(a). **Constriction** (freezing) of nerves due to severe cold or due to thickening of nerve cells.

(b). **Dislocation of joints** of any organ due to external or internal cause compressing nerves and blocking the passages of *Rooh*.

#### 2.1 Breach in continuity of nerves

Any breach in continuity of nerves due to any cut in the nerves may be one of the causes of *Falij*. Cut in the length of the nerves, will not affect the movement and sensation of the part it supplies; but if there is a transverse cut in a nerve, there would be loss of sensation and movement in the part supplied by the affected nerves as a result of a breach in the route of *Roohe hassas* and *muharrik* [2].

*Falij* may be caused by the *buhran* of acute diseases like apoplexy, Epilepsy, abdominal colic, Hysteria, acute fever, due to secretion of morbid matter towards nerves. Such *buhran* occurs when *tabiyat*

has no enough power due to old age or weakness to evacuate the morbid matter completely. Hence *tabiyat* gets rid of this morbid matter by *Dafae naqis* (*Buhrane naqis*) and some part of this matter may remain in the brain and ultimately moves towards nerves to cause *Falij* [1, 2, 10, 11].

#### 3. Risk factors

Hippocrates said that “people who often have common cold and coryza are at a risk of developing *Falij*”. Galen’s view is that “people having superfluous cold humours in their brain, when exposed suddenly to excessive heat or cold, develops *Falij*” [12].

Ibn Sina has revealed that *Falij* is more common in severe cold of winter season and in spring. In spring it is due to haemorrhage and *haijane akhlat* (qualitative intemperament in humours). He also added that *Falij* is more common in people living in southern countries, who attained 50 years of age or somewhat near it, due to excessive secretion from their heads because that climate fills the head [1, 2]. Azam khan added in this context that this disease is common in people with cold temperament especially in weak and old people and those people having excessive phlegm in their body. He also described exposure to cold air and drinking enough cold water as predisposing factors for *Falij*. He further said people with apoplexy; epilepsy and hysteria are more susceptible to develop *Falij* [13].

#### 4. Pathophysiology [1, 2, 14, 16, 17]

In *Unani* system of medicine *Falij* is described as a disease causing loss of sensation and movement in longitudinal half of the body. Loss of sensation and movement occurs in *Falij* because the penetration of *Roohe hassas* and *muharrik* into the organs may either be arrested or the *Rooh* may penetrate but the organs may not respond to it due to intemperament. This intemperament may be due to excessive heat, cold, dryness or moist. But this heat and dryness seldom affects movements and sensation except in extreme conditions as evident in patients of tuberculosis, these patients despite having excessive heat in their *Aazae aslia* (vital organs) don’t suffer any loss in movement and sensation. But if the intemperament is due to surperfluous cold and moist, it often causes loss of movement and sensation. Cold is antagonist to temperament of *Roohe hassas* and *muharrik* and causes numbness in *Roohe hassas* and *muharrik*. The excessive fluid makes the part prepared for laziness. Such excess of cold and moist do not affect the whole or half of the body and leave the other half unaffected but it would affect a particular (single) organ. This loss of movement and sensation caused by surplus solely coldness and moistness without involvement of matter/humour can be corrected by implication of heat alone.

Usually *Falij* is caused due to *Ihtibase rooh* (arrest of pneuma) either due to blockade or distortion of pores and passages through which it normally reaches the organs. This blockade may in turn be due to constriction of pores or due to obstruction caused by a barricading humour. Both these factors can come into play simultaneously as happens in the inflammation. So the basic pathology behind the loss of movement and sensation in *Falij* is obstruction in supply and penetration of *Rooh* into the organs either due to constriction of pores or due to accumulation of morbid matter in these pores or inflammation. If this arrest of *Rooh* is due to some tight ligature applied externally, loss of movement and sensation in this case is only temporary and would soon revert after the untying of the ligature without need of some other treatment.

Sometimes the loss of sensation may be due to severe compression as occurs in case of a blow or fall or deviation of vertebrae towards one side or fracture of vertebrae from either side compressing the nerves emerging from the involved vertebrae.

When a humour causes obstruction in the penetration of *Rooh*, its cause is a moist and less viscid matter which otherwise in normal conditions is beneficial to the organ but unfortunately if this matter enters and stays in the origins of the nerves or compartments of the nerves blocking the routes, through which *Rooh* is supplied to the organs leading to loss of movement and sensation. Same thing happens in case of inflammation of compartments of nerves, obstructing the pores in the involved part.

### 5. Classification<sup>[9-11, 18]</sup>

Ancient *Unani* Scholars used words *Istirkha* and *Falij* synonymously to indicate paralysis irrespective of the part involved, but contemporaries use word *Falij* specifically for paralysis of longitudinal half of the body sparing head and face. If whole longitudinal half of the body including head and face is paralyzed then it is named as *Falij ma'a Laqwa* (Hemiplegia with facial palsy). When there is paralysis of whole body except face, the condition is called as *Abu Bilqisya*. When the whole body including head and face is involved then this condition is called *Sakta*.

Hakeem Azam Khan has classified *Falij* according to its causes into following 5 types<sup>[7, 8, 10]</sup>.

#### (a) *Falije Balghami Ratubi* (due to excess of phlegm)

This type of *Falij* is caused by 'excess of phlegm.' Phlegm descends from the brain to the nerves and obstructs the routes or passages of *Roohe Hassas* and *Muharrrik* leading to loss of movement and sensation. This type of *Falij* is characterized by sudden onset and presence of symptoms of excess of phlegm.

#### (b) *Falije Damwi* (due to quantitative imbalance in blood)

This type of *Falij* is caused by 'excess of blood.' It is also sudden in onset and the symptoms of excess of blood are present.

#### (c) *Falije Intiqale Buhrani*

This type of *Falij* is caused as a result of *buhran* in diseases like meningitis, apoplexy, epilepsy, colic, Hysteria and acute fever. It is also sudden in onset.

#### (d) *Falije Warami* (due to inflammation)

The underlying cause of this type of *Falij* is inflammation; hot, cold, gaseous or hard inflammation; and is characterized by gradual onset and accompanying symptoms like fever and pain or palpable swelling in the nerves.

#### (e) *Falije Wabayi*

This type of *Falij* affects many people in the same season at the same place and is believed to be caused by 'infected air' and often involves left side of body and is characterized by symptoms like redness in eyes, halitosis, vomiting, unconsciousness followed by delirium, incontinence of urine and faeces and sudden death within days.

### 6. Material & Methods

Literature and claims in support of this article has been taken from Classic books of *Unani* system of medicine. For the search of these books author visited following four libraries, namely (a) Library of

Allama Iqbal Unani Medical College (AIUMC), Muzaffarnagar, Uttar Pradesh, India (b) Library of National Institute of Unani Medicine (NIUM), Bangalore, India (c) Departmental Library of Ajmal Khan Tibbia College & Hospital, Aligarh Muslim University (AMU), Aligarh, Uttar Pradesh, India and (4) Maulana Azad Library of Aligarh Muslim University (AMU), Aligarh, Uttar Pradesh, India

### 7. Conclusion

*Falij* is a leading cause of disability and morbidity in present era. Its increasing incidence in adults became a great matter of concern; this shift from 6<sup>th</sup> decade to 3<sup>rd</sup> decade of life is exerting extra strains on nation's wealth as well as health delivery system. Because each year apart from mortality millions of stroke survivors have to adopt a life with restriction in daily activities as well as their professional loss as a consequence of *Falij*. As far as *Unani* medicine is concerned, it is very well versed with understanding and management of *Falij*. In the world's first organised medical book "*Al Canon*" Avicenna quoted as "If the disease that produces paralysis comes from the middle of the brain, half of the body is paralyzed. If the disease is not in the brain but in the nerve, only that depending on this nerve is paralyzed." For treatment he prescribed various medicinal plants in different doses form. In some cases he recommended cauterization and massage. As to prognosis, he stated that "no recovery should be expected from any paralysis that lasts more than six months"<sup>[14, 19]</sup>. So time has come to follow the concept, understanding and ways the *Unani* medicine handle this disease because this is the need of hour to save the suffering and at least minimize the loss caused by *Falij*.

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