Clinical Study of '*Wajul-Fiqaria Unqi*' (Cervical Spondylosis) and Efficacy of '*Safoof-e-Suranjan*' and '*Habb-e-Gul-e-Aakh*' along with Exercise and Massage with '*Roghan-e-Baboona*'

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Abstract

Degenerative disorder of some types at a certain point of life is a universal ageing phenomenon but with changing lifestyles, the number of population suffering with such an ailment is on rise. Cervical Spondylosis is one of them. Apart from the fact that almost each and every ancient Unani Literature has occupied a vast space describing degenerative form of arthropathies, none of them have documented the specified degeneration of cervical spine. Unani Medicine is one of the best complementary healing systems which comprises of *Ilaj-bid-dawa, Ilaj-bil-ghiza* and *Ilaj-bil-Tadbeer*. The management of various arthropathies with the help of above said modalities is well documented in literature of unani medicine. The present study was carried out on cases of cervical spndylosis, selected from OPD/ IPD section of AKTC Hospital. *Habb-e-Gul-e-Aakh* and *Safoof-e-Surenjan* were advised to the patients with massage with *Roghan-e-Baboona* and neck exercises. The results were quite encouraging and found highly significant in case of pain, stiffness, neck & shoulder movement and headache ($p<0.001$) while in associated features like giddiness/vertigo and nausea/vomiting, it was significant ($p<0.05$), the inflammatory feature like local swelling and tenderness were also reduced to significant level. The safety studies regarding test drugs were also carried out to access any side effects of the drugs on various systems of the body at different parameters i.e. LFT, RFT, Blood Sugar and it was found that used drugs did not produced any adverse effect on body. ($p> 0.05$)

Keywords: Wajul-Fiqaria Unqi, Cervical Spondylosis, Habb-e-Gul-e-Aakh, *Safoof-e-Suranjan, Roghan-e-Baboona*.

Introduction

'Wajul-Fiqaria Unqi' (Cervical spondylotic myelopathy) is the most common cause of non-traumatic spastic para-paresesis and quadriparessis. On the basis of radiological findings 90% of men and women older than 50 years and 60 years respectively have evidence of degenerative changes in their cervical spine (Wilson, 2012). The term Spondylosis is derived from two Greek words; Spondylo means vertebra and Osis means condition (Thomas, 1993; Dorland, 1995). Though there is no specified term for cervical Spondylosis in ancient Unani literatures but technically it can be termed as "*Wajul-Fiqaria Unqi*".

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According to Unani concept "*Waja-ul-Unqi* usually takes place after cold exposure and prolonged abnormal posture of the neck during sleep. It causes contraction of the *Qasiyah Hilmiyah* (neck muscles). The neck pain is usually unilateral and aggravated by coughing, laughing, and head movements (Alkirmani, 1969). In Unani Medicine the pathogenesis of *Wajul-Fiqaria Unqi* resolves around one of the basic pathological factors *Soo'e Mijaz Sazij/ Soo'e Mijaz Maddi.*. In case of *Soo'e Mijaz Sazij*, there is derangement of temperament of the affected part that is why it becomes painful without any swelling or inflammation (Ahmad, 1980; Ibnesena, 1303 H; Jamaluddin 1906). In case of *Soo'e Mijaz Maddi*, *Balgham* predominates, *Dam* and *Safra* are next to it and quite rarely *Sauda* is involved (Ahmad, 1980; Ibnesena, 1303 H; Jamaluddin, 1906; Jurjani, 1878). Samerqandi pointed out that the ailment is the result of weakening of the joints and pouring of a specific material within the joints (Alkirmani, 1969).

According to modern medicine, in spondylosis of the cervical spine, the initial degenerative alterations are suspected to occur within the inter-vertebral discs leading to secondary changes in the surrounding facet joints and soft tissue structures (Chapman, 2000). The degenerative process is generally considered to occur first in the articular cartilage of inter-vertebral discs and then the other structures of the joints get involved. This wear and tear phenomenon is attributed to repetitive micro traumas to cartilage from sustained loading on the bone (Donatelli *et al*., 1994).

The principle of management in Unani Medicine is based on acuity & chronicity of the disease and nature of humors involved. Drug therapy consists of appropriate systemic administration of single drugs or compound formulations as well as local applicants to relieve the pain and reduce the inflammation. For this purpose, *So'o-e-Mizaj Sazij* is corrected by appropriate measures while *So'o-e-Mizaj Maddi* is corrected by *Nuzj wa Tanqiya*. *Tahleel-e-Warm wa Taskeen-e-Alam* is achieved by *Muhallilat-e-Warm* and *Mussakinat-e-Alam* drugs ((Alkirmani, 1969; Ibnesena, 1303 H; Jamaluddin, 1906; Jurjani, 1878; Razi, 2004; Gazrooni, 1233H). Apart from drug therapy, *Ilaj-bit-tadbeer* is also an important part of disease management that consists of *Riyazat* (Exercise) and *Dalak* (Massage) (Bagdadi, 2005; Jamaluddin, 1954; Ibnerushd, 1987).

Material and Methods

The present study was carried out on 34 patients selected from Moalejat section of Ajmal Khan Tibbiya College Hospital, Aligarh Muslim University, Aligarh. The individual assessment was done on the basis of history,

examinations, and investigations. This study was done on patients provisionally diagnosed as cervical spondylosis and fulfilling all the inclusive and exclusive criteria. All the patients were advised to take two tablets of *Habb-e-Gul-e-Aakh* (Table-1) and six gram of *Safoof-e-Suranjan* (Table-1) twice a day after meals with water.

With these medications all the patients were also advised and taught for the massage of neck and shoulders with *Roghn-e-Baboona* (5 ml) for 5-10 minutes twice daily in the morning and evening. Patients were also advised for the neck and shoulder exercises i.e. neck flexion, neck extension, lateral flexion, rotation of the neck, shoulder shrugs and retractions. These exercises were advised to be done 5-10 times regularly in the morning and evening. The duration of the study was 45 days and the follow up of each case was carried out at the interval of 15 days. The individual assessment was done on the basis of history, examinations and investigations. The observations were noted down in a case report form. The result were accessed on the following criteria

1. Reduction in pain of neck, shoulder and head
2. Reduction in neck stiffness and improvements of movements of neck
3. Reduction in inflammation
4. Reduction in myelopathic and radiculopathic symptoms (if any)
5. Reduction in nausea, vomiting, blurred vision and giddiness

The safety studies regarding test drugs were also carried out to access any side effects of the drugs on various systems of the body at different parameters i.e. Liver Function Test (LFT), Renal Function Test (RFT). The data were tabulated and analyzed by applying 'z' test.

Observations and Results

The patients selected for the study on cervical spondylosis were divided in to three age groups. It was observed that maximum number of cases i.e. 15 patients belonged to age group of 30-45 years. The other age group i.e. 45-60 years was next to it with 11 patients, while 08 cases were found in age group of 15-30 years (Table-2). An association with a particular age is the hallmark of many diseases and degenerative cervical spine disease is one of them. Cervical spondylosis is an ageing disorder which usually affects people over the age of 40 years (Wilson, 2012; Skinner, 2003; Turek *et al*., 1994). As shown in the table, $¾^{th}$ of the cases included in our study were beyond 40 years of age.

During the course of the study all patients were divided into four groups according to their temperament. The temperament of the patients was

accessed on the basis of *Ajnas-e-Ashra* and it was recorded that maximum number of patients i.e. 22 (64.7%) cases were of phlegmatic temperament, 08 (23.53%) and 04 (11.77%) cases of sanguineous and Bilous temperaments respectively while there was no case of Melancholic temperament (Table-3). The pathogenesis of most of the diseases in Unani medicine is described in terms of alterations of humor's quality and quantity and most of the Unani physicians have clearly associated pathogenesis of *Waja-ul-mafasil* with phlegm (Alkirmani, 1969; Ibnesena, 1303 H; Jamaluddin, 1906). According to the Unani literature, next to the phlegmatic temperament, patients with sanguineous and bilious temperaments respectively are more prone to suffer with *Waja-ul-mafasil*. In present study most of the cases were from phlegmatic temperament and thus the data observed in this study is in the favors of this description.

According to literature upper cervical segments are the site of inflammation while the lower segments are usually diseased by degenerative afflictions. In our study the maximum numbers of X-rays of cervical spine had showed degenerative changes in the inter-vertebral discs between C5 and C6 followed by C6-C7 and least in C4-C5 (Table-4).

Depending upon radiographic changes in the X–ray of cervical spine, patients were categorized in to two groups' viz., cases with Early Cervical Spodylosis and cases with Marked Cervical Spodylosis (Table-5). In the present study feature of Early Cervical Spodylosis were found in 30 (88.23%) while 04 (11.77%) cases have shown features of Marked Cervical Spodylosis. It is also quite in accordance of medical texts (Skinner 2003, Turek et al 1994).

According to literature available in Unani as well as Modern Medicine, arthropathies show seasonal aggravation and their prime features like pain, stiffness and hampered movements get worsened in winter. *Galen, Avicena, Rhazes* and *Ibn-e-Nafees* have mentioned the cold exposure is suppose to be predisposing/aggravating factor regarding its pathogenesis and advised its avoidance as a prime preventive measure (Alkirmani, 1969; Jamaluddin, 1906; Razi, 2004). In our study it was observed that 18 (52.94%) cases experienced aggravation in clinical features in winter which is a strong support of above saying. Furthermore it was also observed that this seasonal aggravation of clinical presentation was more in elder age group patients i.e. above the age of 40 years (Table-6).

The efficacy of drugs and improvement by *Ilaj-bit-Tadbeer* was accessed on the basis of improvements in typical clinical symptoms and signs of cervical spondylosis. Neck and shoulder pain, stiffness and restricted or painful

movements were principal presenting features of the disease (Table-7). On the commencement of this study neck/shoulder pain, and neck/shoulder stiffness were present in 34 cases and at the end of the study there was a highly significant improvements in these symptoms. Neck/shoulder pain, and neck/shoulder stiffness were reduced in 24 cases i.e. 70.58% improvement ($z=6.1$, $P<0.001$) and 23 cases i.e. 67.64% improvements ($z=5.9$, $p<0.001$) respectively at the end of the study. Restricted and painful neck movements were positive in 28 cases at the beginning which was reduced to 09 with 67.85% improvements and $z=5.7$, $p<0.001$. This showed highly significant improvement in restricted and painful neck movements.

Other complaints of the disease were headache, pain and numbness in arms. At the beginning there were 24 patients with complaints of headache, which got down to 03 cases only at the end of the study. Statistical analysis showed this improvement as highly significant ($z=5.1$, $p<0.001$). Pain in arms was significantly minimized from 18 to 06 cases with 66.66% improvement i.e. $z = 3.0$, $p<0.01$ while complaint of numbness in arms was reduced to 04 cases from 07 cases (42.85% improvements). Due to smaller number of cases of numbness in arms statistical analysis could not be done.

Local examinations of the neck for the cardinal signs of inflammations were done on commencement of the study and at every follow up. At 0 day of the study 12 patients showed swelling which was reduced at 45th day as 04 patients. There was a 66.66% improvement in this sign after completion of the study. Statistical analysis ($z=2.3$, $p<0.05$) showed result significant. Likewise there was 50% improvement at the end of 30^{th} day and 65.62% improvement in the local tenderness at the end of the study. Statistically this result was also very significant ($z=5.2$, $p<0.001$). On examinations, 04 cases showed redness and 06 cases showed raised local temperature which got improved to 100% at the end of the study in both but due to the smaller number of cases statistical analysis could not be done.

Most of the anti-inflammatory and analgesics of synthetic origin are said to be hepato/nephrotoxics but clinically there is no evidence with most of the herbal drugs. Hence to evaluate this undesired property of the test drugs on liver, Liver Function Test (LFT) which include Serum Bilirubin, AST, ALT and Serum Alkaline phosphitase and Renal Function Test (RFT) which include Blood Urea and Serum creatinine were done at the commencement of the study and at the end of the study (Table-8).

At 0 day of the study the mean Serum Bilirubin was 0.76 ± 6.2 which got reduced to 0.75 ± 0.12. On applying paired t test it was found that effect

of drugs on this parameter was insignificant (t=0.6, p>0.05). The mean AST before treatment and after treatment was 23.9 ± 6.2 and 24.0 ± 6.1 respectively. The statistical analysis showed that t = 0.5 and p>0.05 i.e. insignificant effect. The mean ALT was 19.0 ± 4.6 at 0 day of the study which got reduced to 18.6 ± 4.3 at the end of the study. Statistically this effect was also insignificant (t=0.5, p>0.05). Likewise the value of Serum Alkaline phosphates before and after the study was 10.3 ± 3.1 and 9.8 ± 2.4 respectively. Statistical analysis of this parameter also showed t = 0.7 and p>0.05. It means the test drugs have no effect on Serum Alkaline phosphates. Similarly the out come of the RFT at the end of the study also did not showed any kind of undesired effect on the kidney (p<0.05).

Table 1: Showing ingredients of *Habb-e-Gul-e-Aakh* and *Safoof-e-Suranjan*

Habb-e-Gul-e-Aakh		
Gul-e-Aakh	*Calotropis procera R. Br (Flowers)*	All the four ingredients are taken in equal amount and pills of one gm are made.
Barg-e-Bans	*Bambosa arundinacea Retz (Leaves)*	
Zanjabeel	*Zingiber officinale Rosc (Rhizome)*	
Filfil Siyah	*Piper nigrum Linn. (Fruits)*	
Safoof-e-Suranjan		
Suranjaan Shireen	*Colchium autumnale Linn (Root)*	All the constituents are taken in equal amount and fine powder is formed.
Asgand	*Withania somnifera Dunal (Root)*	
Buzidan	*Pyrithrum indicum Linn. (Stem)*	
Khulanjan	*Alpinia galangal Willd (Root)*	
Chobchini	*Smilax china Linn (Stem)*	
Malkangni	*Celastrus paniculata Willd (Seeds)*	
Zanjabeel	*Zingiber officinale Rosc (Rhizome)*	

Table 2: Distribution of patients according to Age & Sex

Age Groups (in years)	Number of patients & percentage		Total percentage
	Male	**Female**	
15-30	02 (05.88)	06 (17.64)	22.53
30-45	04 (11.76)	11 (32.35)	44.12
45-60	06 (17.64)	05 (14.70)	32.35
Total	**12 (35.29)**	**22 (64.71**	**100.0**

Table 3: Distribution of patients according to the Temperament

Temperament	No. of patients	Percentage
Sanguineous (Damvi)	08	23.53
Bilious (Safravi)	04	11.77
Phlegmatic (Balghami)	22	64.70
Melanchilic (Saudavi)	00	00.00

Table 4: Distribution of patients according to the discs involved

Disc Involved	No. of Patients	Percentage
C4 – C5	04	11.77
C5 – C6	22	64.70
C6 – C7	08	23.53

Table 5: Distribution of patients according to the radiographic changes

Radiographic Changes	No. of Patients	Percentage
Early C. Spondylosis	30	88.23
Marked C. Spondylosis	04	11.27

Table 6: Distribution of patients according to the H/o seasonal variations in symptoms & Sign

Seasonal Variations	No. of Patients	Percentage
Worse in winter	18	52.94
No aggravation	16	47.06

Table 7: Showing effect of the drugs and Ilaj-bit-Tadbeer on the clinical features

Clinical Feature	0 Day	15th Day		30th Day		45th Day		Total improvement %
		No. of patients	Improvement %	No. of patients	Improvement %	No. of patients	Improvement %	
Neck & Shoulder Pain	34	26	23.52	18	47.05	10	70.58	70.58
z = 6.1 (p<0.001)								
Neck & Shoulder Stiffness	34	28	17.64	22	35.29	11	67.64	67.64
z = 5.9 (p<0.001)								
Restricted neck movements	28	22	21.42	16	42.85	09	67.85	67.85
z = 4.7 (p<0.001)								

Headache	24	17	29.16	11	54.16	03	87.50	87.50
z = 5.1 (p<0.001)								
Pain in arms	18	16	11.11	09	50.00	06	66.66	66.66
z = 3.0 (p<0.01)								
Giddiness & Vertigo	14	08	42.85	08	57.14	03	78.57	78.57
z = 2.9 (p<0.05)								
Nausea & Vomiting	13	12	07.69	09	30.76	04	69.23	69.23
z = 2.4 (p<0.05)								
Swelling	12	10	16.66	06	50.00	04	66.66	66.66
z = 2.3 (p<0.05)								
Tenderness	32	29	09.37	18	43.75	11	65.62	65.62
z = 5.2 (p<0.001)								
Numbness in Arms	07	07	00.00	05	28.57	04	42.85	42.85
Redness	02	02	50.00	00	100	00	100	100.00
Raised local Temp.	06	04	33.33	04	33.33	00	100	100.00

Table 8: Showing effect of treatment on Liver and Renal Functions

LFT	Before Treatment (0 day)	After Treatment (45th Day)
S. Bilirubin ± S.D.(mg/100ml)	0.76 ± 6.2	0.75 ± 0.12
t = 0.6 (p>0.05)		
SGOT ± S.D. (IU)	23.9 ± 6.2	24.0 ± 6.1
t = 0.5 (p>0.05)		
SGPT± S.D. (IU)	19.0 ± 4.6	18.6 ± 4.3
t = 0.5 (p>0.05)		
SAP ± S.D. (KU)	10.3 ± 3.1	9.8 ± 2.4
t = 0.7 (p>0.05)		
RFT	Before Treatment (0 day)	After Treatment (45th Day)
Mean Blood Urea ± S.D. (mg/100ml)	28.35 ± 3.67	28.77 ± 3.41
t = 0.2 (p>0.05)		
Mean Serum Creatinine ± S.D. (mg/100ml)	0.80 ± 6.19	0.80 ± 7.86
t = 0.8 (p>0.05)		

Discussion

The significant improvement in the clinical features of cervical spondylitis may be most likely due to the *Habb-e-Gul-e-Aakh* and *Saffof-e-Suranjan*. In Unani Medicine *Habb-e-Gul-e-Aakh* is one of the drugs of choice for almost all the types of *Wajaul Mafasil* and associated neurological disorders. All the four constituents of both compounds are reported to have anti-inflammatory, analgesic and emmenogogue of phlegm. These drugs are well documented in literature of Unani Medicine and also authenticated by several experimental studies of modern researchers (Kabeeruddin, 1967; Rehman, 1980; Nafees, 2004; Ibnebaitar, 2003; Qasmi, 2001).

Riyazat-e-Unqi (neck exercise) is said to be highly effective as it minimizes the friction and loosen the hardened discs and vertebrae and soften overlaying musculature. Apart from strengthening, it softens the para-vertebral tissue to move freely and relieves the pain and stiffness by releasing the pressure exerted by narrow discs over nerve roots. Although there is no evidence of improvement in disc spaces, neck and shoulder exercises are reported to be very helpful in releasing the nerve pressure and facilitate the active as well as passive neck/shoulder movements thus minimizing the presenting clinical features (Ibnerushd, 1987; Hollis, 2006; Meena, 2006). Similarly, *Dalak* (Massage) of Neck and Shoulder with *Roghan-e-Baboona* proved to be helpful to remove muscle stiffness, local inflammatory features and to allow free movements of cervical spine and shoulders (Ibnerushd, 1987; Hollis, 2006; Meena, 2006). *Roghan-e-Baboona* is well known massage oil for all kind of arthropathies and has been in use since ancient period (Kabeeruddin, 1967; Rehman, 1980).

Conclusion

'Wajul-Fiqaria Unqi' is a degenerative disorder of ageing, and it can be easily managed by judicious use of drugs and *Ilaj-bit-Tadbeer*. The efficacy of the given management in minimizing the suffering of the patients of cervical spondylosis is highly significant. Furthermore our treatment modalities did not show any undesired effect on liver and kidney functions, so it can be said that these drugs are very much safe and can be used without any side effects for a long duration. As in this study the sample size was small, further study should be conducted on a large sample size to elaborate the effects of drugs and *Ilaj-bit-Tadbeer* individually.

References

Ahmad, S.I., 1980. Introduction to Al-Umur Al-Tabi'yah. Saini Printers Delhi, pp. 163-171

Alkirmani Nafees Bin Auz, 1969. Sharah Asbab wa Alamat. (Urdu Translation by K Rizwan Ahamad) Dafter Darut - Taleef Karanchi Pakistan, Vol.1: pp. 183-184, Vol.3: pp. 164-170

Al-Qamri A.M., Al-Hasan bin Nooh, 1930. Ghina Mina Ma Tarjuma Minhaj-ul-Ilaj. (Urdu Translation by Waliullah Khan), Dawakhana Maa'dan-ul-Advia, Lucknow, p. 282

Bagdadi Ibn-e-Hubal, 2005. Kitab-ul-Mukhtaraat. (Urdu Translation) CCRUM New Delhi, pp. 197-199

Chapman, M.W., 2000. Chapman's Orthopedic Surgery. Lippincot Williams and Wilkins USA, 3rd ed; 4th Vol., pp. 3747-3752

Donatelli R.A. *et al*., 1994. Orthopedic Physical Therapy. Churchill Livingston, New York USA, pp. 77-86.

Dorland, Newman, W.A., 1955. The American Illustrated Medical Dictionary. WB Saunders Company, USA, pp. 22:1414.

Gazrooni S, 1233H. Moalijat-e-Sadidi. (Urdu Translation by Syed Abid Hussain). Matba Munshi Naval Kishore, Lucknow, part III, pp. 366-367

Hollis M, 2006. Massage for Therapists. Blackwell Sciences UK, 2nd ed., pp. 35-41.

Ibn-e-Baitar, 2003. Aljame-ul-Mufirdat Al-Advia wal Aghziah (Urdu Translation). CCRUM, Ministry of Health & Family Welfare, Department of AYUSH, Govt. of India N. Delhi Vol.1st pp. 183-185,307; Vol.2nd pp. 163, 364-365; Vol.3rd pp. 96-98,234-235, 377-380.

Ibnesena, S.B.A., 1303H. Al-Qanoon Fit-Tib (Urdu Translation by GH Kantoori). Matba Munshi Naval Kishore, Lucknow, 3: pp. 375-379.

Ibn-e-Rushd, A.W. Mohd, 1987. Kitb-ul-Kulliyat (Urdu Translation). CCRUM New Delhi, pp. 344-346.

Jamaluddin Nafis bin Auz bin, 1906. Moalijat-al-Nafisi. Matba Munshi Naval Kishore, Lucknow, Vol. III, pp. 424-430.

Jamaluddin Nafis bin Auz bin, 1954. Kulliat-e-Nafisi (Urdu Translation by Mohd. Kabeeruddin). Daftar-ul-Maseeh Nurul Umra Hyderabad, Vol. 2nd, pp. 417-418 and 424-427.

Jurjani, M.I., 1878. Zakheera Khwarizm Shahi (Urdu Translation by Hakeem Hadi Hussain Khan). Matba Munshi Naval Kishore, Lucknow, Vol. 6, pp. 1448-1458.

Kabeeruddin, M., 1967. Bayaz-e-Kabeer (Murakkabat-e-Dehli). Daftarul Maseeh Delhi, 11th Ed.: Vol.2nd, pp. 52, 84.

Meena, R.L. *et al*., 2006. Concise Exercise Therapy. Peepee Publishers & Distributors, N.Delhi, 1st Ed, pp. 133-134.

Nafees M., 2004. "Pharmacological and Physiological Study of Some Anti-Arthritic Drugs. (MD Thesis). Deptt of Ilmul Advia, A.K. Tibbiya College, AMU, Aligarh, pp. 81-82.

Qasmi, I.A., 2001. Kitab-ul-Mufirdaat. International Printing Press, Aligarh, pp. 29-30; 41; 53-54; 87; 105; 122;129-130; 169-170; 205-206.

Razi ABM bin Zakeria, 2004. Kitabul Hawi (Urdu Translation). CCRUM, Ministry of Health & Family Welfare, Dept. of AYUSH, New Delhi, Vol. XI, pp. 75-77.

Rehman, S.Z., 1980. Kitab-ul-Murakkabat. Publication Division, Aligarh Muslim University Aligarh, pp. 61, 81-82.

Skinner H.B., 2003. Current Diagnosis and Treatment in Orthopedics. Mc Graw-Hill, New Delhi, 3rd ed., pp. 221,223-225.

Thomas Clayton L., 1993. Taber's Cyclopedic Medical Dictionary. FA Davis Company, USA, pp. 17:354, 1855.

Turek et al., 1994. Orthopedics Principles and their Application. JB Lippincot Company, USA, 5th ed, pp. 345-349.

Wilson, D., 2012. Cervical Spondilysis (http:// www.emedicine.medscape.com / article/306036-overview).