

Evaluating the Role of *Suranjan* in Combination with *Sharbat-e-Bazoori* for the Management of Gout

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ABSTRACT

Gout is metabolic disease that usually affects middle age and rarely elderly people. Clinically it is observed that this disease occurs due to intake of protein rich and high calorie diet. Pathologically deposition of mono-sodium urate crystals in joint space and other tissues results in the symptoms like pain and inflammation.

Methods: in this study, patients of gout are treated with soranjan tablet in combination with sharbat-e-Bazoori for a period of one month who qualified the inclusion criteria.

Results: we observed that severity of joint swelling, pain, inflammation, tenderness, stiffness and mobility resolved significantly after the treatment (p-value <0.0001*). All the objective parameters like; Sr. uric acid, ESR and CRP improved significantly after the treatment with a p-value (<0.0001*).

Conclusion: owing to the painful and stressful condition of the gout, it has been demonstrated that a combination of two Unani drugs (Habi Suranjan and Sharbat-e-Bazoori) together effectively treats gout and the associated symptoms.

Keywords: Gout, Uric acid, Niqras, Hyperuricemia.

INTRODUCTION

Gout is a disorder of purine metabolism characterised by formation of mono sodium urate crystals in the synovial fluid joints and other tissue.¹ This may be

because of increase in production of urate or decrease in its clearance as in the kidney disorder resulting in hyperuricemia. Ali-bin-Abbas majoosi (930-994 AD), says that arthritis (waja-ul-mufasil), when involves the great toe is called Niqras (Gout).² Ibn-Hubal (1122-1233 AD), explained that Niqras is derived from the term (Naqaroos) which means the “joint of the great toe” as this disease primarily affects the first metatarsophalangeal joint hence named as Niqras.^{2,3} Ibn-HUBal also mentioned that persons having excess of Akhlat (Human) and enable to excrete it normally, then the same retained in the body and reaches to joint spaces.⁴ According to Ibn-e-sina, the pain of Niqras is variable and can involve fingers, heel and toe. Hippocrates (Bukrat 460-377 BC) mentioned that Niqras is usually found in men who over indulge in drinks and food hence called it a disease of king. Hippocrates also revealed that Niqras is caused by excess of one of the four humours which moves into the joint causing pain and inflammation. Etiopathogenesis Ibn-e-sina in “Al Qanoon Fit Tibb” says that the matter responsible for Niqras is either blood (Dam) alone or blood mixed with phlegm i.e. Damibalgami blood mixed with yellow bile i.e. damisafravi or blood mixed with black bile i.e. damisaudawi. It is also said that phlegm (balghami) alone or raw

phlegm (balghamikhham), serous humour (Mirrah) alone or mixed humor may lead to the Niqras.⁵ Hence it is attributed that Sue Mizaj and Raddimawad is directly related to Niqras.⁶ It is believed that gout occurs due to spill down of bad humors towards the lower extremities. Where from the body is not able to expel it. ZakqariaRhazi blames raw phlegm as a causative humor of Niqras, Hakeem Kabeeruddin says that gouty matter is a by-product of liver metabolism and indirectly a disease of zofi kabit.⁶ Niqras was known among the Egyptians as podagra (Foot Pain) especially if big toe as early as 2640 BC and the same in present day time is known as uric acid arthropathy. Ibn-Hubal (1122-1233 AD) in Kitab-Al-Mukhtarat fit tib said that Niqras commonly involve both foot and the affected part (greater toe) becomes inflamed, red, painful and also explained that this condition occurs in patients who have excess of humors and the body is unable to excrete the same physiologically due to impairment of the hepatic functions.⁷ Misih-ul-mulk, Hakeem Amal khan (1868-1927 AD) has also mentioned that pain of Niqras mainly involves greater toe of right foot and at times both that feet are involved.⁸ Avicesina, Razes and Allama Qureshi have frankly associated phlegm with pathogenesis of gout.

MATERIALS AND METHODS

Patients following the inclusion criteria were enrolled for this study. The patients were asked to sign the informed consent form. A relevant history of each patient was recorded with regards to their chief complaints with duration, name, age, sex, religion, occupation, food habits, marital status and any other drug intake history. The joint involved were examined for signs of inflammation, active and passive movements and presence of swelling at the beginning of the study (0 day) and thereafter regularly during the follow up i.e. 7th day, 14th day, 21st day, 30th day. The patients were examined for the presence of any tophi too. The

hematological assessment of all cases was done at regular intervals. Rheumatoid Arthritis Test (RA-factor) & C-reactive protein (CRP) was carried out at the beginning of the study (0 day) to rule out the presence of rheumatoid disease and LFT, KFT, BSR (random blood sugar), hemograms (TLC, DLC, ESR, Hb%) were carried out twice at the beginning of the study (0 day) and then at the end (30 day) to establish the safety & observe the effect (if any) of our drug on renal and liver function and blood glucose level. The estimation of serum uric acid was carried out at the beginning of the study (0 day) and then regularly during the follow up at 15th day and 30th day. Temperament of each patient was assessed on the basis of different parameters mentioned in the classical Unani literature and treatment period was fixed to 30 days. Diagnosis was made on the basis of ACR criteria (American College of Rheumatology Criteria, satisfying any six of the twelve criteria as recommended). All the findings were recorded on the case report form designed for the study. A total of 60 patients were randomly allocated for the trial, by simple randomization using lottery method. The patients were equally divided into two groups with 30 patients in each group. The first group which we call as test group was given suranjan in combination with sharbat-e-bazoori and the 2nd group (control group) was administered with standard drug (NSAID). All the observations were statistically analyzed with the help of biostatistician to ascertain the efficacy of drug on signs and symptoms and in reducing the serum uric acid level. The patients who did not fulfill the inclusion criteria were excluded from the study.

• Criteria for selection of patients

Inclusion criteria

- Patients with increased serum uric acid level associated with clinical features of primary gout.
- Age group of 30- 60 years.
- Patients of both sexes.

➤ Patients who were willing to discontinue NSAIDs or allopurinol, for joint pain and sign the informed consent form.

Exclusion criteria

- Serious dysfunctions of Renal, Cardiac, Liver & Pulmonary.
- Pregnant and lactating women.
- Secondary gout.
- Patients below 30 years and above 60 years

Withdrawal criteria

- Failure to consume the drug
- Failure to come for follow up
- Any undesirable drug reaction.

• **Method of assessment of the disease**

Subjective parameters

- Pain
- Swelling.
- Tenderness
- Redness over the joints
- Increased local temperature.
- Painful joints movement.

Objective parameters

➤ Serum uric acid level rose beyond the normal limit i.e., more than 7 mg/100 ml in males and more than 6 mg/100 ml in case of females.

• **Dosage schedule and mode of administration of test drug**

Prognosis

The prognosis of this disease depends upon the nature and type of the morbid material involved. According to the jalinos (Galen) if the humors are raw and urine is thick then its prognosis will be good, however if the disease is hereditary in nature and predominantly found in juvenile age super added with renal diseases then the prognosis may be very poor. ⁹ Since the

incidence of the gout is very rare in elderly people, but if it occurs then prognosis will be again poor. In case the gout occurs on right side the prognosis will be poor compared to its involvement on the left side.¹⁰ According to the legendary physician of the Unani medicine “Zakariya Razi” it is believed that if the matter (maddha) involved is viscid, has poor prognosis.

Dietary Recommendation

It is advised to restrict the protein rich food (Beef & Mutton) and high calorie diet like cereals and dry fruits, Razi has recommended all those food items which make the blood thin. Kabeer-ud-din has recommended following easy digestible (Zudhazm) food products like Roti, milk, rice barley water, spinach, fenugreek and fruit juices.

RESULT OF INTERVENTION

In this section we will present results in tabular form.

Table 1: Showing age distribution among test and control group

Age	Test		Control		Total	
	No.	%age	No.	%age	No	%age
20-30	0	0.00	1	3.33	1.00	1.67
30-40	12	20.00	7	23.33	13.00	21.67
40-50	7	40.00	7	23.33	19.00	31.67
50-60	5	23.33	6	20.00	13.00	21.67
60-70	6	16.67	9	30.00	14.00	23.33
Total	30.00	100.00	30.00	100.00	60.00	100.00
Mean±SD	47.43±9.46		48.37±12.02			

Student’s independent t-test (P-value= 0.7349)

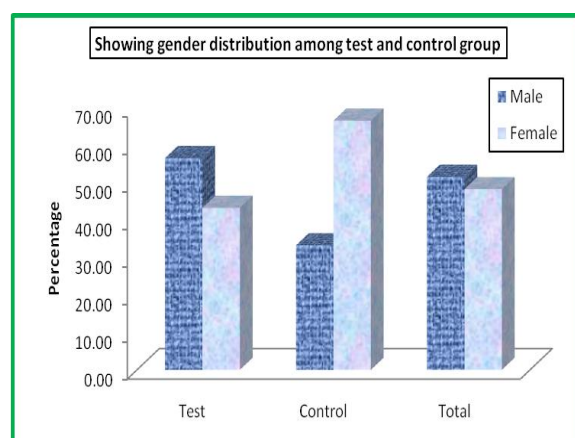


Table 2: Showing comparison between test and control group with respect to severity of pain

Severity of pain	Control		Test		Total	
	No.	%age	No.	%age	No	%age
Absent	11.00	36.67	24.00	80.00	35.00	58.33
Mild	19.00	63.33	6.00	20.00	25.00	41.67
Moderate	0.00	0.00	0.00	0.00	0.00	0.00
Severe	0.00	0.00	0.00	0.00	0.00	0.00
Total	30.00	100.00	30.00	100.00	60.00	100.00

Chi-square=11.589, df=1, P-value=<0.0001*

Table 3: Showing severity of joint swelling after the treatment in test and control group

Swelling status	Test		Control		Total	
	No.	%age	No.	%age	No	%age
No joint swelling	30.00	100.00	14.00	96.67	59.00	98.33
Palpable	0.00	0.00	16.00	3.33	1.00	1.67
Visible	0.00	0.00	0.00	0.00	0.00	0.00
Bulging beyond joint margins	0.00	0.00	0.00	0.00	0.00	0.00
Total	30.00	100.00	30.00	100.00	60.00	100.00

Chi-Square=21.81.017, Df=1, (Fisher's Exact, P-value=<0.0001*)

Table 4: Showing comparison of objective parameter after the treatment between test and control group

Objective parameters					P-value
		N	Mean	Std. Deviation	Std. Error Mean
Sr. Uric Acid	Test	30.00	4.34	0.35	0.06
	Control	30.00	7.13	0.60	0.11
ESR (Isthr)	Test	30.00	7.26	5.84	1.07
	Control	30.00	19.92	5.73	1.05
CRP	Test	30.00	1.68	1.04	0.19
	Control	30.00	5.56	1.90	0.35

The combination of Suranjan and sharbat-e-bazoori administered on patients for 30 days and interestingly signs and symptoms of gout were drastically improved. We observed that severity of joint swelling, pain, inflammation, tenderness, stiffness and mobility resolved significantly after the treatment (p-value<0.0001*). All the objective parameter like; Sr. uric acid, ESR and CRP improved significantly after the treatment with a p-value<0.0001*. The patients were kept on follow up for 2 weeks after the treatment to assess any possible symptomatic recurrence. No adverse effect of Unani formulation was noted in the patient.

DISCUSSION

Since Bukrat says that “a young man does not take gout unless he indulges in coitus”, this means that excessive sexual activity particularly after a meal is considered as a high risk factor for gout in males.^{11,12} It's also mentioned in the classical text books that this disease is predominantly found in rich people and is related with leisure and high caloric food intake.^{13,14,15} About two thousand years back Hippocrates has mentioned that gout is a familial disorder and has strong hereditary

influence. In Unani system of medicine Niqras is derived from Nakaroos which means great toe joint, this consistent with details of gout given in standard modern medical text.¹⁶⁻¹⁸ Colchicum has been considered as the grand drug to overcome the rheumatic disorders similarly colchicum is effective in gouty arthritis. Colchicum leads to failure of deposition of monosodium urate crystals around the joint.⁸ Colchicum also minimise the aggregation of inflammatory mediators and cytokines on inflammatory sites especially in synovium and synovial membrane.¹⁹ Colchicum is highly effective in all inflammatory in joint diseases, however due to its excretory action on uric acid, its particularly prescribed for increased uric acid level in blood and ultimately in gouty arthritis. Apart from anti-inflammatory and excretory action of colchicum its purgative action on intestine, astringent and resolving action on joints make the drug magnificent and also makes expulsion of uric acid through intestine.^{18,19} It's observed that gout has an association with sex, age group, life style and dietary habits. Gout rarely occurs in adults after the age of 30 years, however nowadays young adults between the age of 20-25 years also shows increased incidence

of gout.^{3,4,5} The incidence of gout higher in men than women before menopause is due to uricosuric effect of estrogen that promote renal excretion of uric acid in pre-menopausal women^{3,5,7,12} Sharbat-e-Bazoori has a great influence on different systems of the body by way of regulating the hepatic metabolism and regularising the elevated liver enzymes and maintaining the proper functioning of Urogenital system and this way flushing out the concretions and other residues from the urinary tract. Sharbat-e-Bazoori also helps in overcoming the several inflammations and thus appears effective in Hepatosplenomegaly, Nephritis, nephrotic syndrome, Cystitis, Urolithiasis etc. This clinical study was conducted on patients to evaluate the efficacy of Unani pharmacopeial formulation “HabiSuranjan and Sharbat-e-Bazoori”. In the management of gout, it was observed that Habisuranjan in combination with sharbat-e-Bazoori is significantly effective in resolving the symptoms and signs of gout and have prominent effect on decreasing the serum uric acid level. The inflammation of the affected joint was markedly decreased and the joint movement was also improved the combination of these two drugs was highly efficacious and there was not any adverse effect on safety parameters and hence these two drugs proved highly efficacious in the treatment of gout.

CONCLUSION

Owing to the painful and stressful condition of the gout, it was decided to use a combination of two Unani drugs (HabiSuranjan and Sharbat-e-Bazoori) together for the treatment of gout and its ill effects on the kidneys and other vital organ of the body. It is observed that colchicum does not allow the deposition of mono sodium urate crystals around the joints and cause kicking out of humors responsible for the disease. Simultaneously the other drug given in combination i.e., Sharbat-e-Bazoori helps to flush out the residues from the kidneys and to maintain the PH of the Urogenital tract and thereby prevents the

growth of the micro-organisms in the tract and also maintains the humor balance.

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