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Case series of 5 patients of gout: Management through unani formulations (*Habb-E-Suranjan)*

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Abstract
Unani system of medicine depends on Hippocrate's hypothesis of four Humors (Akhlat). Gout is one of the most established known disease and described in Unani System of medicine under the term Niqras. According to Unani theory, the more prominent changes in the joints are caused generally by derangement of humeral temperament and accumulation of morbid material (Mawad-e-Fasida) in the joint spaces. Renowned Unani Physician Ibn-Hubal said that Niqras affect mainly those peoples who have excess of Humors (Akhlat) and their body is unable to excrete them, then these humors retain inside the body and accumulate around the joints and other tissue of body. Hyperuricemia is viewed as one of the main sources of joint stiffness and pain especially small joint most commonly affecting first metatarsophalangeal joint. Hyperuricemia associated with traditional risk factors such as dysglycemia, dyslipidemia, central obesity, gout (Nikras), gouty arthritis, tophi formation, abnormal blood pressure, etc. Concordantly, Ongoing studies have revived the controversy over the role of circulating uric acid and gout (Nikras) as an independent prognostic factor. In this regard, most of the Unani formulations efficacy (Habb-e-Asgandh, Habb-e-Suranjan, and Sharbat Bazoori Motadil) assessed on numerous patients with the possibility of lowering increased serum uric acid level. In this Study, we will concentrate on controlling of hyperuricemia with the use of Unani Medicine Habb-e- Suranjan).

Keywords: gout, nikras, unani formulations, hyperuricemia

Introduction
Historically, Gout has been considered to be primarily a male disease. The fact that women can also develop gout was first recognized during the reign of Nero (54-68 A.D) by Seneca [1]. Seneca, a Roman senator, in the first century A.D highlighted the role of genetics in gout [2, 3, 4]. *Aretaeus* (81- 138 A.D) described polyarticular gout [5]. Diocles of Carystus (4th century B.C) believed that gout was an inflammatory disease that occur due to accumulation of bad humours in the feet joints [6].

Thomas Sydenham (1624-1689) was an English Physician in England, he is known as the English Hippocrates, and Father of English Medicine distinguished Gout from Rheumatism [7]. Sydenham first described the acute attack of gout in his treatise on Gout (1683) [2]. Thomas Sydenham sometime called Shakespeare of Gout, Some of his Quotes regarding the Gout are listed below:

1. Gout kills more rich men than poor, more wise men than simple.
2. Gout produces calculus in the kidney the patient has frequently to entertain the painful speculation as to whether gout or stone be the worse disease. Sometimes, the stone, on passing, kill the patient, without waiting for gout.
3. Gout generally attacks those aged persons who use too much wine and other spirituous liquors [8, 9]. According to Masih-ul-Mulk Hakeem Ajmal Khan (1868-1927 A. D), pain of all the joints of body is called *Waja-ul-Mafasil* (Arthritis) and pain of great toes of feet is called Niqris. According to Ajmal khan pain of Niqris mainly involved great toe of right foot but sometime both the foots are also involved [10].

Ismail jurjani (1200 A.D), In *Zakheera Khwarzam Shahi* mentioned that pain & inflammation of ankle joint, foot-finger joints especially of great toe is called Niqris [11].

According to *Hakeem Kabeeruddin* (1889-1976 A.D), Niqris denotes the specific pain and inflammation affecting the ankles and toes, especially the great toe. However it may involve the wrist joint and joints of the fingers also [12, 13].

Hakeem Ghulam Jeelani in Makhzanul Jawahar has broadly classified Gout into following types [14]. Niqris-e-Haar (Acute Gout), Niqris-e-Baarid (Chronic Gout), Niqris-e-Hashwi (Visceral Gout, Niqris-u-Raas (Cephalagra), Niqris-u-Rukba (Gonagra), Niqris-u-Sullamiyat

(Phalnjagra), Niqris-ul-Qadam (Podagra), Niqris-ul-Qalb (Cardiagra), Niqris-ul-Kataf (Omagra), Niqris-ul-Yad (Cheriagra), Niqris-ul-Waraq (Ischiagra), Niqris-e-Mafasili/ Muntazim (Regular or Articular Gout), Niqris-e-Muntaqil / Munqata (Retrocedent or Suppressed Gout).

Primary gout

It is associated with an inborn error of purine metabolism. This accounts for 95% of the total cases and is either due to primary overproduction or under excretion of uric acid, or a combination of both. Primary gout often has a familial incidence [15, 16, 17, 18].

Secondary gout

It ia associated with an acquired disease (like polycythemia vera, multiple myeloma and some leukaemias) or the use of a drug. 5% of all gout case falls into this category [15, 16, 17, 18].

Etiology

In case of Gout, the humors collect in the joint, thereby leading to pain, swelling and other articular damage [19, 20]. According to Hakeem Kabeeruddin gouty matter (noxious matter causing gout/maddah-e-niqris) is basically a byproduct of liver metabolism, and it look likes the urinary calculus to a large extent. Niqris (gout) is one of those disease, which is related to the hepatic and tissue metabolism (*hazm-e-kabidi or hazm-e-chaharum*) [21, 22, 23]. According to most of the Unani scholars: humours which is associated with Niqris (gout) is mostly phlegm *(balgham*), which may be either raw phlegm (*balghm kham*) or it may be mixed with serous humour (mirrah). The other humours are less likely to cause this disease. As such, when propulsive power of the body (Quwwat-e-Dafiyah) tries to expel this matter, a part of it still remain in the body, which accumulate at various anatomical locations (joints, kidney etc) & produce various Clinical features. Simultaneously, the blood and urine level of this substance are also raised [24].

Case descriptions

The Patients were examined for their symptoms such as pain, redness and swelling of joints and much more. Patients went through for both general and systemic examination. Every one of 5 patients has visited OPD of Ajmal Khan Tibbiya College of A.M.U, Aligarh. During the course of treatment, patients reported about improvement of symptoms as well as for any side effects of drug or any new problem regarding to disease and treatment. Symptoms were also relieved at the end of the study. To assess the effect of drug on subjective parameters the patients were assessed for various sign and symptoms (Painful joints movement, Tenderness, Increased local temperature, Swelling, Redness and Pain). The severity was rated as severe, moderate, mild, and absent and graded as 3, 2, 1, and 0, respectively based on arbitrary grading system. The assessment was carried out on 0 day, 7th day, 14th day, 21st day, and 30 day. While objective parameter carried out on 0 day, 15th day, and 30th day to evaluate the effect of test and control drugs and safety parameters before and after treatment. The painful joint movement was present in all patients and there was significant but gradual improvement noted on every visit of the patient and at the 30th day. Similarly swelling was also improved, improvement in tenderness, improvement in increased in local temperature, improvement in pain in joints were noted. Drugs were found to be significant in relieving the symptoms of painful joints movement, tenderness, swelling, increased local temperature, and pain.

Patient 1

Patient 1 was a 46 year-old man with symptoms of gout pain in joints especially in big toe of foot along with pain of other joints of upper extremities. With these problems patient came OPD. The diagnosis was confirmed by thorough physical, systemic examination with proper history and investigation. Routine investigations, blood sugar, along with Serum uric acid, CRP, RFT and LFT before and after treatment was done to assess any side effects of drug. No relevant history was found. There was no past history of relapses or recurrence of Gout and no medical history notable to think for other disease. He received Unani treatment *Habb-e-Suranjan* was systemic in used for duration of 30 days. Patient 2Patient 2 was a 48-year-old man with no notable history to doubt other arthritis, past history of taking pain killers for relieving the symptoms. He came in OPD with signs and symptoms of Gout. Symptoms were found bilaterally. The intensity of pain is more in right great toe of feet. He has given the past history of gout 7-8years back. He took allopathic treatment. This time he wanted to take Unani treatment for gout. The decision was made by patient after proper diagnosis, He received Unani formulations *Habb-e-Suranjan* was systemic in use for 30 days. Physical and systemic examination do not revealed deterious abnormal significant finding. Routine investigations, blood sugar, along with Serum Uric acid, CRP, RFT and LFT before and after treatment was done to assess any side effects of drug.

Patient 3

Patient 3 was a 65-year-old woman, she came in OPD with the symptoms of gout. After examination of whole skin, physical and systemic examination, Diagnosis was confirmed. She presented typical presentation of gout with varying size. She has given the history of taking pain killers. No medical history notable for other arthritis. Already Patient was taking allopathic treatment but from few days back. But he wants to swap up the treatment. The decision was made by patient to take Unani treatment. Hence, the patient received Unani formulations *Habb-e-Suranjan* was systemic in used for 30 days duration.

Patient 4

Patient 4 was a 59-year-old man with signs and symptoms of gout has came in OPD. The symptoms were redness, pain, and tenderness in toes of upper and lower limbs. Physical and systemic examination were also done but not relevant finding was found. And no other significant changes were seen on the skin. No other relevant history was found. Routine investigations, blood sugar, along with Serum uric acid, CRP, RFT and LFT before and after treatment was done to assess any side effects of drug. Patient also suffered from the disease earlier, this time there is a recurrence or relapse of the disease. Since the patient was from a very humble background he showed his urged for the Unani therapy. Hence, the patient was used Unani formulations *Habb-e-Suranjan* after proper diagnosis for 30days duration.

Patient 5

Patient 5 was a 38-year-old woman who came in OPD. The symptoms were present bilaterally. She presented the typical presentation of gout. She was thoroughly examined (physical and systemic), no other significant changes were found on examination of whole body. Proper history was taken, no medical history notable for systemic disorders, type II diabetes, No relevant finding of other systems was found. Routine investigations, blood sugar, along with Serum uric acid, CRP, RFT and LFT before and after treatment was done to assessed any side effects of drug. On the basis of the available data, the patient received Unani formulations *Habb-e-Suranjan* was systemic in used for duration of 30 days.

Main therapy

As per references available in the classical Unani literature, Unani formulations *Habb-e Suranjan* is a pharmacopoeil formulation taken from Biyaz-e-Kabeer Part II (Dehli ke Murakkabat) Published by Idara Kitabusshifa New Dehli. *Habb-e-suranjan* was prescribed for a period of 30 days. Thereafter, improvement was noticed in the patient's complaints. Patient visited on 0 day, 7th day, 14th day, 21st day, and 30 day to see the results of treatment during the course of treatment.

The Composition of Habb-e-Suranjan is as follows

1. Sibr Saqootri (*Aloe barbadensis*)
2. Post Halela Zard (*Terminalia chebula*)
3. Suranjan Sheerin (*Colchicum autumnale*)

All the drugs were in equal weight.

The above mentioned drugs were procured from the Dawakhana AK. Tibbiya College and were prepared in pills form by the Dispensary of the hospital [25]. Each patients was given *Habb-e-Suranjan* in the dosage of 4 pills three times a day orally (6gm/day) each pills weighing 500 mg.

Probable mode of action

These clinical improvements are mainly because of composition of the drug which is very suitable to the pathogenesis of hyperuricaemia and gouty arthritis. Our drug combination consists of drugs like *Suranjan (Colchicum luteum), Sibr saqotri (Aloe barbadensis), and Post Halaile Zard (Terminala chebula*). The relief in pain can be attributed to the analgesic activity of Elva (Aloe barbadensis) [26, 27]. Suranjan (Colchicum luteum) [28, 29, 30, 31, 32, 27] and Sedative (Musakkin activity of Halaile zard [33].

A study reported that carboxypeptidase in Elva was found to have a significant analgesic activity and inhibited the acceleration of vascular permeability with acetic acid inflammation. It has been suggested that carboxypeptidase may be a main anti-inflammatory agent of aloe, though other compound such as Salicylate may contribute to the effect [34]. The anti-inflammatory action of *Suranjan* also play a vital role on joint pain and painful joints movement along with reduction in swelling and tenderness and may also be responsible for the response in patients [28, 35, 29, 36, 37, 38]. The resolvent and analgesic action of *Suranjan* is enough to explain the mechanism through which the gradual improvements happened [28, 29, 30, 38].

One more explanation can be put forward as regards to the improvement, and is due to the decreased levels of serum uric acid which consequently leads to failure of deposition monosodium urate crystals in the joints and thus the attacks is subsided. *Suranjan* possesses the above properties and cause expulsion of humors causing the disease [39, 28, 35, 29, 30, 36]. It is also pertinent to mention here that *Suranjan* consists of Colchicines which has pivotal role in gouty arthritis due to its action. It inhibit the aggregation of inflammatory mediators and cytokines on inflammatory sites particularly of synovium and synovial membrane [40]. *Sibr* due to its strong purgative and mild diuretic properties, *Halaila* due to its mild diuretic and purgative properties, and *Suranjan* due to its phlegmagogue and mild diuretic properties, facilitates the expulsion of uric acid through the intestine and kidney. As it is mentioned in our clinical text books [2, 41, 42, 43] that seventy five percent of uric acid is excreted in the kidney and the remaining is lost in the gut, it is therefore in under execrators these drugs play a wonderful role but it is also a fact that their purgative action is harmful to the patient when used for a long period. It is therefore the formulation is well designed by addition of *Post Halaila zard (Terminalia chebula)* which not only works as anti-inflammatory but also rectify the action of above mentioned drugs and making the formulation least toxic because of its Astringent actions as well as tonic action on stomach and intestine [35, 44, 45]. It is therefore *Suranjan* is effective in all inflammatory joint conditions, but due to its excretory action on uric acid, it is mainly prescribed for hyperuricaemia and gouty arthritis. Whether it is acute or chronic. The other important action of *Suranjan* is its Astringent and resolvent action on joints which is more or less contradictory but its purgative action on intestine, astringent and resolvent action on joints make the drug wonderful. This is why the expulsion of uric acid takes place through intestine [12, 36, 38, 46]. The disease Niqris is considered a disease predominantly of phlegmatic indulgence and our formulation is very much suitable to expel out excessive accumulated abnormal phlegm and other humors responsible for such a pathognomonic state. The only objective parameter which was serum uric acid level and it was estimated at 15th day interval, indicating that drug have very significant action on reducing serum uric acid level. The well known action of Suranjan i.e. the expulsion of Monosodium urate from the blood and urate crystals from joint affected make the formulation very effective to expel out urate crystals and uric acid through intestine. It is therefore the findings are very much encouraging in the reduction of serum uric acid level. During the study the patients were advised to avoid purine rich diets, encourage taking plenty of water along with our medication.

Result of intervention

The Unani formulations *Habb-e-Suranjan* has given to the patient for 30 days and in these patients signs and symptoms of gout were improved by given Unani formulation. Patient has visited at weekly while full duration of treatment. The patient kept on follow up for 2 weeks after the treatment for the recurrence of symptom. No adverse effect of Unani formulation was noted in the patient. I am very confident that Unani formulation is very effective in gout. That why further studies will be recommended.

Discussion

Eminent Unani Scholar described various Unani formulations in his authentic book for the treatment of gout. This has been proved by present study that Unani formulation is effective in Gout. The reduction in serum uric

acid level is a very encouraging to inhibit the endogenous production of serum uric acid level needs further exploration with more advance study on utmost modern parameters and through interdisciplinary approach to make our formulation to be acknowledged by medical fraternity. The safety parameters were also there to asses any concomitant toxicity on liver, kidney were also kept in watch through the kidney function test. Liver function test it was found that there was no apparent and observable adverse effect during the study and at the end of the study. Similarly the drug has no observable adverse effect on blood routine investigations also.

Conclusion

Gout occurs very commonly among the individuals. The concerning point is that the duration of treatment is long and its relapses and recurrence is another problem. So we all aware with this reality allopathic treatment has side effects on prolonge use. In this way Unani treatment is the best alternative for treatment of Gout without side effects.

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