INTERNATIONAL JOURNAL OF PHARMACEUTICAL SCIENCES
[ISSN: 0975-4725; CODEN(USA): IJPS00]
Journal Homepage: https://www.ijpsjournal.com

Review Article

History, Evidences of Therapeutic Application Of An Ancient Unani Procedure Fasd (Vensection)- A Review

Rashid Qazi[1], Bhoraniya Abdullah Ismail[2], Baig Ruqaiyya Khatoon Hushamuddin[3], Ansari Mushir[4]

[1]*Associate Professor, Dept. of Ain, Uzn, Anf, Halaq Wa Asnan (Eye, ENT), Anjuman I Islam Dr. MIJ Tibbia Unani Medical College, Versova Mumbai 400061.*
[2]*Assistant Professor, Dept. of 'Ilaj bi'l Tadbir (Regimenal Therapy), Anjuman I Islam, Dr. MIJ Tibbia Unani Medical College, Versova Mumbai 400061.*
[3]*Assistant Professor, Dept. of Ilmul Saidla, Anjuman I Islam, Dr. MIJ Tibbia Unani Medical College, Versova Mumbai 400061.*
[4]*Assistant Professor, Dept. of Ilmul advia, Anjuman I Islam, Dr. MIJ Tibbia Unani Medical College, Versova Mumbai 400061.*

ARTICLE INFO

Received: 01 June 2024
Accepted: 05 June 2024
Published: 06 June 2024
Keywords:
Fasd, Venesection, Unani Medicine, 'Ilaj bi'l Tadbir, Humors, Scientific study, phlebotomy.
DOI:
10.5281/zenodo.11507055

ABSTRACT

Unani medicine is a healing art and science whose origin can be traced back to ancient Greece, known as Yūnān, and hence termed as Unani or Yunani medicine. In Unani medicine 'Ilaj bi'l Tadbir is very important treatment methodology. In the Unani medical system, Fasd or venesection, is a traditional, age-old form of treatment. The Arabic term "Fasd" means "to Open." In which vein /artery is open or cut to drain blood from the body for therapeutic purpose. When a patient has an excess of blood (kamiyat) in their body and is either at risk of developing a disease or has already developed one, they undergo Fasd. Practitioners of the Unani medical system wrote extensively on this process in their classical texts. Based on classical literature, the provided paper discusses the specifics of venesection, including its history, indications, types, amount of blood to be drain, scientific studies on venesection. A special emphasis made on application of Fasd in various medical and surgical diseases.

INTRODUCTION

In the Unani system of medicine, there are three methods of treatment viz; 'Ilaj bi'l Tadbir (Regimenal Therapy), 'Ilaj bi'l Ghidha' (Dieto-therapy), 'Ilaj bi'l Dawa' (Pharmacotherapy), and 'Ilaj bi'l Yad (Surgery) is one of the most popular methods of treatment practiced by ancient Unani Physicians for ages [1, 7]. The dictionary meaning

***Corresponding Author:** Bhoraniya Abdullah Ismail
Address: *Assistant Professor, Dept. of Iaj Bit Tadbeer, Anjuman I Islam, Dr. MIJ Tibbia Unani Medical College, Versova Mumbai 400061*
Email ✉: abdullahismail519@gmail.com
Relevant conflicts of interest/financial disclosures: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

of the Arabic word Tadbeer is 'regimen or systemic plan' whereas Ilaj denotes treatment or therapy. Thus, 'Ilaj bi'l Tadbir entails the maintenance of general health and care of the diseased person through regime or intervention [2, 3, 7]. Regimenal therapy encompasses Riyazat (exercise), Dalk (massage), Takmeed (fomentation), Idrar-eboul (diuresis), Ta'reeq (sweating), Zimaad-wa-tila (ointment and liniment), Hammam (bath), Qai (emesis), Ishaal (purgation), Huqna (enema), Kai (cauterization), Hijamah (cupping), Taleeq (leeching), and Fasd (venesection). Out of these regimens, one important regimen is Fasd. It provides great scope in the management of various ailments. [4, 7] By definition, it is a specific technique of blood-letting wherein a blood vessel is cut and some blood is evacuated from the body [5, 6, 7]. 'Ilaj bi'l Tadbir means treatment through regimens, which is done by doing modification in Asbabe Sitta Zarooriya (six essential factors for life) to attain general health. As soon as these morbid humors get evacuated, normal health gets restored, and vitality of the body gets increased. [1]

Fasd is also known as bloodletting or venesection or Phlebotomy and is an important treatment that has been used from ancient times to the present. Phlebotomy has historically been performed using cupping, acupuncture, or leeches. Phlebotomy using inserted needles differs from wet cupping therapy (Al-hijamah). Several thousand years ago, phlebotomy was used for both preventative and curative treatments. However, in modern medicine, phlebotomy is performed in a physician's office, at a blood bank, or under the supervision of a doctor in a hospital and is only performed with a prescription that clearly specifies the clinical indication(s) and the required number of bloodlettings. Therapeutic phlebotomy has several physiological mechanisms. For example, bone marrow stem cells are stimulated by bloodletting to generate new red blood cells (RBCs), which, to make haemoglobin (Hb), needs the transportation of iron (in the ferritin form) from the body's reserves. Since the removal of RBCs or serum iron is the most effective way to manage the symptoms and problems of blood disorders, therapeutic phlebotomy is the preferred treatment for these conditions since it lowers the patient's overall iron levels.

Material and Mathods

Unani classical literature was searched through Kitab Al-Hawi, Al-Ikseer, Kitab Al-Mukhtarat Fit-Tibb ,Al-Qanoon Fit-Tib, Khazainul Advia, Tazkara Uool-al-Albab, Bayaz-eKabeer, Firdos al-Hikmat etc. for its complete description. For clinical studies, and efficacy computerized databases such as Medline, PubMed, Google Scholar, and Science Direct were searched. We have searched classical literature from classical unani books and modern literature for digital database.

HISTORY OF VENESECTION

In the Unani medical tradition, the practice of venesection dates back before 1550 BC [8]. Numerous Unani doctors have expounded on the significance and efficacy. In fact, several significant classical works that emphasized the medicinal benefits of Fasd were authored by Unani academics [8]. The Arabic term "Fasd" means "to open." "Venesection is a process of complete evacuation which drains out blood and dominating humours mixed with blood from veins," according to Ibn-e-Hubal Baghdadi [10]. Qarshi is also described as a process that involves making an incision with a sharp object to drain the body's blood [8]. Ibn-ul-Qaf Maseehi stated in his work that venesection is purposefully carried out with a certain instrument. employed within veins [9]. Humours are generally eliminated through venesection. It eliminates extra humours in an amount equivalent to that found in blood vessels. Venesection is performed on patients who have an excess of blood in their bodies and who are either

at danger of developing an illness or who have already experienced one. In both cases, the idea is to remove the general excess of humours, or the abnormal humours or both. The procedure of venesection was commonly used by Unani physicians but the number of veins to be venesected mentioned by Unani physicians varies from physician to physician. According to Ibn-ul-Qaf al Maseehi 34 [9], Ibne Hubal Baghdadi 41 [10] and Zakaria Razi 29 veins [16,17] respectively. Zahrawi has only supported the venesection of 32 veins [12]. Sixteen of them are on the skull, ten in each hand, and six in each leg [12, 13]. Ali Geelani claims that there are 36 (36) veins total, including veins and arteries [13], although other Unani doctors have argued that there should be 66 (sixty-six) veins for venesection [14].

Fasd (venesection) ; showing procedure, colour of blood, in patient with Varicose vein

Suitable Persons For Venesection

As per Unani physician there are two types of persons suitable for venesection.

- Those who are prone to develop diseases due to excess of blood; such as Women in whom menstrual blood has been suppressed or the person who are disposed to sanguineous sciatica, gout and arthritis Or Cessation of bleeding from haemorrhoids or those who are suffer from haemoptysis due to break down of lung veins or those who suffer from Sara (Epilepsy), Sakta (Coma), Malencholea, Khunaq (Diphtheria), inflammation of internal organs and conjunctivitis due to excess blood.
- Those who are sick due to Amraz-e-damvia (dominance of blood) [10, 13, 24]

EFFECT OF VENESECTION IN DIFFERENT DISEASES IN UNANI SYSTEM OF MEDICINE

Diseases of the central nervous system

- **Headache and migraine:** If the signs of plethora are present, the skin is hot and pulse is full then venesection of the cephalic vein of the affected side, or on the side of more pain may be done.[17]
- **Vertigo:** If the cause of vertigo is only a central nervous system disease, then Faşd of cephalic vein should be done. If it is associated with any other cause, for example, indigestion, gastric pain, etc. then Faşd of axillary vein is recommended [18]
- **Dizziness:** Faşd of both parotid veins is recommended. If dizziness is accompanied by tinnitus and feeling of heat in the head, then also this faşd is beneficial [18]
- **Injury:** If a headache has been caused by an injury, then faşd should be done early after considering the stamina of the patient. If the patient is a young child, then cupping on the

opposite side may be done to divert the noxious matter. However, if the blood loss has been much, then faṣd should be avoided.[19]

- **Coma:** If coma has been caused by a plethora of blood, then cupping on the heels or faṣd of Saphenous veins is recommended [19]
- **Melancholia:** In case of excess of blood and Sauda (Black Bile) in the whole body and if the disease is in the initial stages, the venesection of saphenous or cephalic veins should be done and the blood should be let till the patient can tolerate it. Diet after the faṣd should contain large amounts of water [19]
- **Encephalitis:** Faṣd of the cephalic vein should be done in the initial stage, and a large amount of blood should be expelled. Then venesection of the 'Urūq Nabza Zāhira (jugular veins) should be done [19]
- **Epilepsy:** If the patient is a young adult and epilepsy has been caused by Damvi matter, then faṣd of the cephalic and saphenous veins should be done. Then, cupping on the heels and faṣd of arteries of the head is recommended.[20]

Diseases of the eye

- **Chronic vascular keratitis, itching in the eye, blepharitis:** Faṣd of the lacrimal veins should be done. If this is not possible, faṣd of the vein of forehead should be done.[13]
- **Wounds in the eye:** If the wound is painful, then faṣd of the cephalic veins followed by cupping on the heels are recommended [19]
- **Inflammation (hot in temperament) of the eye:** If the disease is in the initial stages, then faṣd of the cephalic vein is recommended. To alleviate the remaining disease, faṣd of the veins in the lacrimal angle of the eye is beneficial [21]

Oral diseases

- **The mobility of teeth:** This disease is usually due to Balghami wastes. Faṣd of cephalic veins followed by sub-lingual veins is beneficial [20]
- **Toothache:** Faṣd of the sub-mental veins is effective in relieving pain.[14] If the pain is sharp and pricking in nature, then faṣd of cephalic vein followed by cupping is advised. The patient should be advised to keep rose water and vinegar in his mouth for some time.[19]

Diseases of the chest

- **Lung abscess:** If the lung abscess is associated with haemoptysis, and the blood expelled is frothy, then faṣd of the right axillary vein should be done immediately. Light, easily assimilable diet should be given after the faṣd. Bind both the heels tightly with a cloth, so that the patient feels slight pain.[20].

Diseases of the circulatory system

- If palpitation is associated with a high pulse rate and fever, then Qurs Kafoor and Apple Juice should be given after faṣd [19]
- **Varicose veins:** Initially, faṣd of basillic vein should be done. Then give drugs which expel Sauda from the body. After that, faṣd of all varicose veins should be done, and all the accumulated blood let out. Avoid diet which produces sauda. Massage of the upper part of the body is also helpful. If the varicosities must be excised, then it must be followed by faṣd of the basilic vein.[22] If the disease is chronic, then faṣd of both Saphenous veins is recommended.[22]

Diseases of the liver

- **Obstruction in the liver:** If the obstruction is associated with abnormal hot temperament, then faṣd of the basillic vein is recommended [19]
- **Liver abscess:** If it is suspected that an abscess may develop in the liver, then first faṣd of the basilic vein should be done; then

cupping should be done on the back adjacent to the liver.[23]

Diseases of the gastrointestinal tract

- **Colic:** If the colic is caused due to acute inflammation (of hot temperament), then faṣd of the basilic vein of the right hand should be done many times; and a small amount of blood should be let each time. Laxatives should also be given.[19] Faṣd of the cephalic vein of the right hand is also beneficial [23]
- **Haemorrhoids:** If the haemorrhoids are painful and non-bleeding and signs of plethora are present, then faṣd of the basillic vein followed by faṣd of the saphenous or popliteal vein is effective. Wet cupping between the buttocks is effective in this disease.[23] According to Hakim Azam Khan (1211–1320 AD), faṣd of the basillic vein is effective in all types of piles [23]
- **Proctitis and anal fissure:** If the fissure is associated with inflammation or trauma, then faṣd of basilic, popliteal and saphenous veins is recommended. If plethora is also present, then the faṣd should be followed by constipating drugs in tablet form.[23]

Diseases of the kidneys and urinary bladder

- **Renal ulcer:** If it is associated with excess and ḥiddat of blood, then faṣd of basilic vein is recommended [23]
- **Jarb-e-Kulya:** If the patient has good general health, then faṣd of basilic vein followed by cupping on the back is recommended [24]
- **Dysuria:** If it is associated with inflammation (of hot temperament), then faṣd of basilic vein is beneficial.[24] If plethora is also present, then faṣd of the saphenous vein is beneficial.[25] If the dysuria has been caused due to a pelvic injury, then faṣd of the basilic vein should be done. Then pour water on the site of injury followed by massage for extended periods [19]
- **Renal calculi:** If the stone is causing inflammation and pain, then faṣd of the basilic vein is recommended. If the stone is associated with an excess of blood and prominent, wide vessels, then faṣd of popliteal vein is recommended.[25]

Diseases of the genital system

- **Orchitis:** Faṣd of the basilic vein of the affected side followed by faṣd of the saphenous vein is beneficial. Alternatively, wet cupping on the pelvic region should be done [23]

Miscellaneous

- **Ulcers in the uterus:** Faṣd in the axilla is recommended. If the noxious matters persist, then faṣd of the saphenous veins followed by strong purgatives should be done [26]
- **Sciatica:** Faṣd of the sciatic vein is beneficial in this disease. Faṣd of the saphenous vein may also be done, but it does not provide similar benefits. According to Jalinoos, faṣd of the popliteal vein is better than faṣd of the saphenous vein. Before faṣd, it is better to ask the patient to fast for 1 day before faṣd, so that it is more effective. In case of chronic sciatica, faṣd in the heel is recommended [22]
- **Elephantiasis:** First induce emesis. Then faṣd of dāliya (deltoid artery) or saphenous vein should be done. Bind the legs from the ankle to the knee tightly, especially during walking. Faṣd of the basillic vein of the opposite side is also effective [19]
- **Gout:** Faṣd of the cephalic vein of the opposite side of the affected limb should be done. Then expel the blood according to the rules of faṣd. [20]

SCIENTIFIC STUDY ON THERAPEUTIC VENESECTION/ PHLEBOTOMY

1] Role of phlebotomy in Osteoarthrosis

This study was designed to explore the efficacy of traditional Unani intervention *Fasd* (Venesection) for Osteoarthrosis. A total of 40 cases of O.A. were

randomly divided into control and test groups of 20 each. The control group was given Unani herbal drugs while test group was provided the same Unani treatment along with *Fasd* for a period of six weeks. The safety and efficacy measurements were performed at base line and at last follow up. The intervention of *Fasd* exhibited statistically significant results in comparison to control group in subsidence of pain, and restriction of joint movement without causing any adverse reaction. [27]

2] Role of phlebotomy in the treatment of liver damage related to erythropoietic porphyria (EPP)

This study investigated the effectiveness of phlebotomy in patients with severe liver damage in seven patients diagnosed with EPP and liver damage between 2010 and 2020 and the improvement effect of hepatic disorder was observed in all cases. The median age at referral was 31 years (26–64 years) and six patients were male and one was female. After phlebotomy, liver damage rapidly subsided simultaneously with the decrease in protoporphyrin in all three patients; liver injury relapse was not noted thereafter. Phlebotomy has been proposed for congenital erythropoiesis (Günter's disease), acute liver and cutaneous porphyria. This strategy is expected to suppress haem biosynthesis through the regulation of ALAS, a pathway restriction enzyme that leads to the accumulation of porphyrins. Although the effectiveness of phlebotomy in EPP patients has been shown, it is necessary to investigate the mechanism such as the regulatory action of ALAS in the future However, hypermyelination due to the progression of anaemia caused by phlebotomy may induce further production of protoporphyrins, which may worsen the condition. Therefore, we carefully performed a 400-mL phlebotomy for the first time by monitoring the blood data (such as Hb levels) and then slowly performed a 200-mL phlebotomy once every 1–2 weeks. [28]

3] Therapeutic phlebotomy in children with sickle cell anaemia

Serial phlebotomy was performed on sixty children with sickle cell anaemia, stroke and trans fusional iron overload randomized to hydroxycarbamide in the Stroke with Transfusions Changing to Hydroxyurea trial. A total of 927 therapeutic phlebotomy procedures were performed on 60 subjects (mean 15±8, median 16, range 1-28 procedures per subject). Of those, 909 (98%) were performed at protocol-directed volumes including 741 at 10 ml/kg or 500 ml, 108 at 5 ml/kg for Hb 70-79 g/l, and 59 at 5 ml/kg per protocol for the first scheduled phlebotomy. Only 26 (3%) of phlebotomy procedures stopped before the scheduled volume was removed, typically from loss of venous access. Phlebotomy removed an average of 127±74 ml/kg blood, representing 8.5 ml/kg of blood removed per procedure. The 23 children who completed 30 months of study treatment received an average of 23 phlebotomy procedures, removing 193.3±46.7 ml/kg blood. The entire cohort of children receiving phlebotomy, serum ferritin decreased significantly from 3272±1587 µg/l at study entry to 2772±1564 µg/l at phlebotomy initiation (p=0.007) and then further to 2097±1631 µg/l at study exit (p. Therapeutic phlebotomy is safe in children with sickle cell anaemia and can be effective treatment for transfusional iron overload [29]

4] Therapeutic Phlebotomy in Grade 1 Hypertension: A Randomized-Controlled Trial

In this randomized-controlled intervention study, patients with unmedicated hypertension grade 1 were randomized into an intervention group (phlebotomy group; 500 mL bloodletting at baseline and after 6 weeks) and a control group (waiting list) and followed up for 8 weeks. Primary endpoint was the 24-h ambulatory mean arterial pressure between the intervention and control groups after 8 weeks. Secondary outcome parameters included ambulatory/resting

systolic/diastolic blood pressure, heart rate, and selected laboratory parameters (e.g., haemoglobin, haematocrit, erythrocytes, and ferritin). Resting systolic/diastolic blood pressure/heart rate and blood count were also assessed at 6 weeks before the second phlebotomy to ensure safety. A per-protocol analysis was performed Study results showed that therapeutic phlebotomy resulted in only minimal reductions of 24-h ambulatory blood pressure measurement values in patients with unmedicated grade 1 hypertension. Further high-quality clinical studies are warranted, as this finding contradicts the results of other studies.[30]

DISCUSSION AND CONCLUSION

Insights into the classical texts of Unani medicine offer an interesting conceptualization of past medical practices. These methods served as the mainstay of therapy for centuries, successfully providing affordable and comprehensive healthcare. But much like other cultures and customs, many of the medical treatments that have been used up until now are progressively disappearing as time goes on.

Venesection in cephalic vein for gout, and in sciatic vein for Sciatica has already describe in unani medicine. According to Jalinoos, faşd of the popliteal vein is better than faşd of the saphenous vein. Before faşd, it is better to ask the patient to fast for 1 day before faşd, so that it is more effective. In case of chronic sciatica, faşd in the heel is recommended [22], similar finding of effectiveness has been observed by khan SA et al. [27]

While earlier theories and treatments were largely based on philosophy, they were widely used for decades and had sufficient clinical evidence of their safety and efficacy. However, more recent developments in the medical sciences, which are notable for producing compelling scientific evidence, appear to contradict or trivialize these earlier theories and treatments. Faşd is one of such therapies, which is present in limited use in certain clinical settings. Nevertheless, the vast literature provides substantial rationale to suggest its use in a wide range of disorders. Further research is vital to clarify the full clinical and economic implications of Fasd therapy and to determine the true potential of this age old reliable regimental therapy of Unani system of medicine. In modern system of medicine phlebotomy is used in many diseases although in USM various indication in multiple system diseases are mention and are being in practice since antiquity but in recent time these traditional methods are ignored to perform. Special emphasis should be made on practice of such novel methods of Unani system. Standard Operating Procedure should be made with proper training of Unani medical profession. Extensive clinical trial is need to be conducted on efficacy of Fasd in various diseases with modern scientific parameters. Therefore, conduction of more extensive, exhaustive, randomized clinical studies on a large sample size is the need of the hour to evaluate its efficacy in various diseases on reliable and validated scientific parameters. Popularization of such ancient treatment method will open newer pathway of disease treatment in various autoimmune and chronic diseases with minimum coast, low side effect and maximum benefits.

CONFLICT OF INTEREST

There is no conflict of interest found.

AKNOWLEDGEMENT

All authors are thanks full to Padmashri. Dr. Zahir I kazi, for their continuous support, motivation and mentorship.

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HOW TO CITE: Rashid Qazi, Bhoraniya Abdullah Ismail, Baig Ruqaiyya Khatoon Hushamuddin, Ansari Mushir, History, Evidences of Therapeutic Application Of An Ancient Unani Procedure Fasd (Vensection)- A Review, Int. J. of Pharm. Sci., 2024, Vol 2, Issue 6, 369-377. https://doi.org/10.5281/zenodo.11507055