

Venesection (*Fasd*)

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Introduction

Unani system of medicine is one of the oldest medical systems that is based upon the theory of humors. In this system various types of treatment are employed. These include:

1. *Ilaj-bil-tadbeer* (Regimental therapy)
2. *Ilaj-bil-ghiza* (Dietotherapy)
3. *Ilaj-bil-dawa* (Pharmacotherapy)
4. *Ilaj-bil-yad* (Surgery)

Among these types *Ilaj-bil-tadbeer* (Regimental therapy) is an ideal and simple way of treating a disease as well as the means to preserve health. It comprises of *Riyazat* (exercise), *Dalak* (massage), *Takmeed* (fomentation), *Nutool* (pouring of medicated lukewarm water on affected part), *Zimaad-wa-tila* (ointment and liniment), *Ta'reeq* (sweating), *Idrar-e-boul* (diuresis), *Hammam* (bath), *Ishaal* (purgation), *Qai* (emesis), *Huqna* (enema), *Imala* (diversion of morbid material), *Hajamat* (cupping), *Fasd* (venesection), *Taleeq* (leeching), *Kai* (cauterization).

Out of these, *Fasd* (venesection) enjoys great importance in the management of various diseases. Actually it is a procedure in which an incision is given to any of the superficial vessels and blood containing *madda-e-fasida* (waste material) is allowed to flow². The purpose is evacuation of *madda-e-fasida* (waste material). It removes excess humors in the same proportion as present in the blood vessels or abnormal humor or both¹. It is also known as Phlebotomy, venepuncture, Blood draw, Drawing of the blood, or taking blood.

History

Venesection or Phlebotomy is the longest-running tradition in medicine. Originated in the ancient civilizations of Egypt and Greece, persisted through the Medieval, Renaissance, and enlightenment periods, flourished in Arabic and Indian medicine and lasted through the second industrial revolution. The practice continued for 2,500 years until it was replaced by the techniques of modern medicine.

It was based on an ancient system of Unani medicine in which blood and other bodily fluids were considered to be "humors" whose proper balance maintained health. Sick patients were thought to have an imbalance of their humors, which was thought to be restored by bloodletting.

During this period most bloodletters would open a vein in the arm, leg or neck with small fine knife called a lancet. They would tie off the area with a tourniquet and holding the lancet delicately between thumb and forefinger, strike diagonally or lengthwise into the vein. (A perpendicular cut might sever the blood vessel). They would collect the blood in measuring bowls, exquisitely wrought of fine Venetian glass.

They used the instruments included; thorns, pointed sticks and bones, sharp pieces of flint or shell and even sharply pointed shark's teeth. Miniature bow and arrow devices for bloodletting have been found in South America and New Guinea. A small bloodletting instrument resembling a crossbow was once used in Greece and Malta. Wall paintings dating from 1400 B.C. depict the use of leeches for drawing blood from human beings.

Bleeding was as trusted and popular in ancient days as aspirin is today. Bloodletters bled patients for every ailment imaginable. They bled for pneumonia and fevers, back pain, and rheumatism, headaches and melancholia, even to treat bone fractures and other wounds. Yet there never was any evidence that phlebotomy did any good. They devised elaborate charts indicating the most favorable astrological conditions for bleeding. It wasn't until well into the 19th century that people began to question the value of bloodletting.

Scientists such as Louis Pasteur, Joseph Lister, and Robert Koch showed that germs, not humors, were responsible for disease. Furthermore, medical statisticians tracking case histories began to collect evidence that bloodletting was not effective. Eventually the practice became obsolete, although it continued in some parts of America in 1920s. But now it is almost never used anymore, except for certain rare conditions like hemochromatosis, a genetic condition affecting 600,000 to 1,000,000 Americans. In which the body stores too much iron. One way to treat this is to periodically drain some of their iron- rich blood, which restores the mineral's proper balance.

Objectives of Venesection (*Fasd*)

1. To maintain normal volume of blood in people who are predisposed to develop the disease due to excess of blood.
2. To stimulate *istehala* (metabolism).
3. To check *kasrat-e-tams* (menorrhagia) and *ru'af* (epistaxis).
4. To cure *humma-e-ajaamia* (malaria) and splenic disorders, *bawaser-e-damvi* (haemorrhoid), *warm-e-khusiya* (orchitis), *Iltehab-e-rahem* (metritis), *jarb-o-hikka* (scabies and pruritus), *Khuraj* (boils), *Iltehab-e-kabid* (hepatitis).

Methods of Venepuncture

Bloodletting is a common method used for blood drawing. It can be listed under the following headings:

1. General bloodletting
 - a) Venesection
 - b) Arteriotomy
2. Local bloodletting
 - a) Scarification with wet cupping
 - b) Leeches

In venesection the vessel should be opened gently with a proper lancet and without forcible entry or rough cutting. Lancet should be first tried on the skin to see if it is really sharp. Veins are to be made prominent with a tourniquet so as to prevent them from slipping under the knife. The site is briskly massaged up and down with fingers. In order to let the vessel fill up properly it should be compressed with one finger and massaged with the other. The tip of the lancet should be pushed to the requisite distance but not so deeply as to cause damage to nerves and arteries. The lancet is held between the thumb and middle finger, the index finger is left free for Exploration. The lancet should be held at the middle to obtain a firm grip. If the vein tends to slip, it should be kept in position with pressure from the opposite side and a longitudinal incision made. The pressure from tourniquet should be regulated according to the thickness and firmness of the skin. The tourniquet should be applied close to the site of puncture. The place where the vein tends to slip should be noted and care taken that in tightening up the tourniquet vein does not get displaced from its original position. The lancet should be used in a guided manner so as not to injure the neighbouring structures. If the vein fails to become prominent, skin should be inside and the vessel picked up with a pair of forceps. Some times a bandage or tourniquet applied for venesection interferes the proper filling of vessels. Finally the part is washed but stretching the skin across the wound. Water is prevented from getting into it. The whole area is then dressed and bandaged¹.



The equipments used for *Fasd* consist of:

1. A variety of lancets, with sharp and blunt points. The sharp pointed lancets are recommended for slippery veins such as Jugular vein.
2. Silk thread rolled into ball.
3. A feather or a (swab) stick to induce vomiting.
4. Rabbit's wool, aloes, olibanum, deer's musk bladder, dawa-ul-misk and musk tablets. These things are required for the management of fainting, which is common during venesection and can be fatal³.



During the 20th century, the venepuncture was usually performed on the Antecubital vein at the anterior aspect of the forearm:

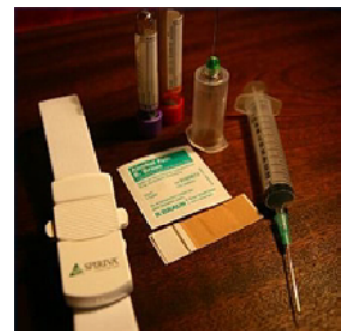
1. The site is cleansed thoroughly with methylated spirit 70% swab.
2. An injection of local anaesthetic is given to numb the site for venesection.
3. Once the anaesthetic has taken effect, a needle will be inserted and blood drawn into a collection bag.
4. A plaster will be applied to the puncture site after the procedure, if there is still slight bleeding, apply slight pressure on the plaster. Other wise keep the area clean and dry.



They use the following three methods for venepuncture:

1. Syringe method
2. Vacuum tube method
3. Butterfly method

The equipment consisting of a plastic Hub, a Hypodermic needle, and a vacuum tube. Under certain circumstances, a syringe may be used, often with a butterfly needle. In the developing world, a needle and syringe are still the most common method of drawing blood.



Position

Venesection should be carried out in the supine position. This conserves strength and prevents fainting³.

Size of Puncture

A narrow puncture made with a fine lancet is not very debilitating it, however, removes thin and clean blood and leaves behind the heavier morbid matter. A wide opening often causes fainting and takes much longer to heal. Its cleansing effect is, however, definitely more. A large wide incision is recommended when the object of venesection is prophylactic and the subject is well-developed and muscular. It is also to be preferred during winter as it prevents blood from clotting. A small incision is generally the best during summer⁴.

Suitable Time for Venesection

In all cases of plethora venesection should be carried out in spring even if no disease has yet developed⁶.

The Amount of Blood to be Removed

The proper time between the stoppage of blood and bandaging the wound varies from case to case. Some people

can stand blood loss of even more than five or six pound, even though they might be suffering from fever, other seemingly fit and healthy are unable to bear even a fraction of this loss¹.

After completion of venesection:

1. The food should at first be light and then gradually made normal [heavy meals should be avoided]
2. The same applies to exercise.
3. Rest in supine position.
4. Resolving baths are not recommended.
5. If the puncture gets inflamed, a small venesection should be carried out from the other extremity. The part should be treated with white ointment and some strong cooling liniment applied to the surrounding skin⁴.

Repeated Venesections

Venesection should be carried out through a narrow rather than a wide opening and repeated on alternate days. When, however, the need is urgent, it may be repeated several times during the same day with less and less of blood removed at each subsequent sitting. In other words, repeated venesection should be preferred rather than a large let out at one sitting³.

Indications

1. Venesection (*Fasd*) is carried out when there is excess of blood in the body.
2. It is also carried out when the patient is either exposed to the risk of developing a disease or has actually developed one.

In both cases, the idea is to remove the general excess of humors, or the abnormal humor or both⁶.

General excess (plethora) of blood predisposes to:

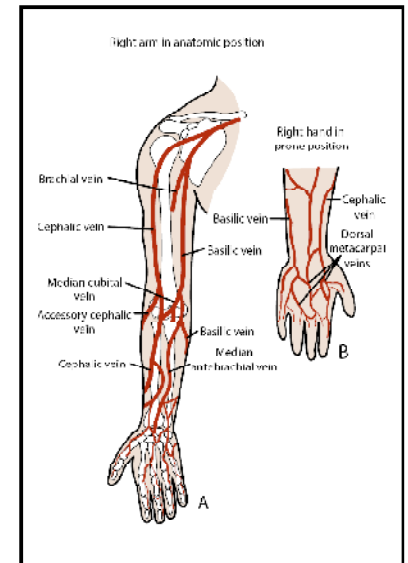
1. Sanguineous sciatica, gout and rheumatism.
2. Recurrence of haemoptysis from excess of the blood rupturing partially healed blood vessels.
3. Convulsions, coma, and melancholia.
4. Swelling of throat and internal organs.
5. Hot (inflammatory) type of conjunctivitis following the stoppage of habitually bleeding piles and amenorrhoea. In these cases complexion gives no indication because it may be dark, pale or greenish in colour.
6. Excessive heat or weakness in the internal organs.
7. It is recommended in wounds and contusions as a prophylactic against inflammation.
8. It is carried out when an abscess is threatening to rupture before maturation, even though there is no other indication and no excess of humors.
9. Venesection is carried out freely as long as the disease has not yet developed but once it has appeared the idea of venesection should be given up because it would then make the humors thin and disperse them into the normal blood and thus leave behind quite a large amount of the morbid matter requiring repeated troublesome venesection. If however, matter has matured and the early stage is over, venesection in this case if indicated, may be carried out.
10. **Fevers:** Sometimes venesection is carried out in fevers for no other reason than to reduce the excess of morbid matter. In such cases body-build, age and strength of the patient have to be monitored and should be favourable. In sanguineous fevers, venesection is the only way to eliminate morbid matter. In the early stage, only a small quantity of blood should be removed, but later when maturation has set in, a larger quantity of blood should be removed, which frequently leads to the immediate disappearance of fever.
11. **Haemorrhage:** venesection is sometimes carried out for stopping haemorrhage, as in epistaxis, haemoptysis, menorrhagia, bleeding piles, and bleeding from a ruptured abscess. In such cases the object is to divert the blood to the opposite side, this is often quite useful and effective⁶.

Vessels for Blood Letting

Blood letting may be carried out from a vein or an artery. It is, however, rare that it is carried out from an artery as there is risk of haemorrhage, and sometimes of even developing an aneurysm especially when the incision is minimal. If proper steps are taken to prevent haemorrhage, blood letting from an artery can be of great value in case where it is really indicated. Thus it is particularly beneficial when some light and agitated humor has led to a serious disturbance in the area supplied by the artery. In such cases blood letting is carried out from the artery of the affected area with considerable benefit and without any fear of complications¹.

Blood letting is generally carried out from the following six veins:

- i. Cephalic (*keefal*)
- ii. Median cubital (*akhal*)
- iii. Basilic (*bazleeq*)
- iv. Accessory cephalic (*habl-uz-zirra*)
- v. Third dorsal metacarpal (*usailim*)
- vi. Axillary (*ibti*)⁵



Arteries: Bloodletting may be also carried out from the Temporal artery and Posterior auricular artery.

Other Vessels for Venesection are:

S.No.	Site	Indications
1.	Cephalic vein	Diseases of the head and neck like meningitis, conjunctivitis, pain in the ear.
2.	Median cubital vein	Diseases of the head and neck like melancholia, headache.
3.	Basilic vein	Pleurisy, pain in the stomach and liver, endometritis
4.	Accessory cephalic vein	Similar to those of the cephalic vein
5.	Third dorsal metacarpal vein	Right third dorsal metacarpal-liver disorders. Left third dorsal metacarpal-cardiac and splenic disorders.
6.	Axillary vein	Similar to those of the basilic vein
7.	External Saphenous vein	Sciatic pain, gout, varicose vein, elephantiasis
8.	Internal Saphenous vein	Obstructed bleeding piles, menstruation
9.	Popliteal vein	Obstructed bleeding piles, menstruation
10.	Vein over the heel	Similar to those of saphenous vein
11.	Frontal vein	Heaviness of the head and eyes, chronic headaches

Contd....

S.No.	Site	Indications
12.	Veins at the inner canthus of eye	Headache, migraine, chronic conjunctivitis, ectropion, leucoma, trachoma, styes, night blindness.
13.	Jugular vein	Early stages of leprosy, serious throat angina, asthma, bronchitis, pneumonia, hoarseness of voice, dyspnoea.
14.	Nasal branches of facial vein	Chloasma, discolouration of face, piles, boils and itching of nose.
15.	Veins beneath the mastoid	Chronic headache
16.	Labial vein	Ulcers of the mouth, stomatitis, thrush, bleeding gums.
17.	Inferior lingual vein	Throat angina and tonsillitis
18.	Inferior labial vein	Foul breath
19.	Ant. jugular vein	Disorders of the pit of the stomach
20.	Temporal artery	Headache and diseases of the eye
21.	Posterior auricular artery	Headache, conjunctivitis

Contraindications

Venesection (*Fasd*) is contraindicated in:

1. Excessively cold temperament.
2. Extremely cold climate.
3. Severe pain.
4. After resolving baths.
5. After coitus.
6. In children under fourteen years of age.
7. Those who are flabby and have pale puffy complexion.
8. In elderly persons.
9. Chronic invalids unless their disability is due to abnormal blood.
10. With a full stomach.
11. Venesection and other modes of elimination must never be attempted on the day relapse is expected or the disease has recurred. Because on this day body is in a state of agitation and turmoil and needs proper rest and sleep.
12. In the case of some prolonged disease with possibility of several crises it is not proper to remove a large quantity of blood. Venesection should be avoided altogether. If this is not possible any small quantity of blood should be removed so that the system is left in a condition to cope with the number of expected crises.
13. It is not suitable in colic.
14. Venesection is not advisable during pregnancy or menstruation. In these conditions it should be done only under some compelling reasons such as the urgent need for stopping severe haemoptysis. Indeed, even then, it should be carried out only when the woman is sufficiently strong to safeguard the foetus against death.

15. Venesection is not indicated in any state of plethora. If there is excess of immature humors, venesection is extremely harmful as in such case a portion of the humors is left behind and may cause even death, if, however, there is excess of *Sauda*, venesection should be carried out without any fear and if some of it is left behind this is removed later on by purgation.
16. It should be avoided in acute irritative (infective) fevers, and on the days of paroxysms⁷.

Complications

Complications associated with having blood drawn are slight but may include:

1. Sometimes a blunt lancet is unsuitable for venesection as it fails to cut the vessel and causes unnecessary pain and swelling.
2. Sometime the tip of the lancet gets broken and is left behind in the vessel where it causes some other damage.
3. Constipation: Since venesection draws the blood away [from the viscera] it frequently causes constipation.
4. Heavy quantum due to venesection weakens the faculties and increases the morbid matter in the system.
5. Persons who have never experienced venesection frequently faint at the sight of blood. [Such persons should receive preliminary emesis to render the system light and prepare for venesection. When fainting does occur it should be treated with emesis].
6. It produces agitation and disturbance of humors. [Hence appropriate measure should be taken to keep the system quiet]⁶.
7. Haematoma [blood accumulation under the skin].
8. Infection [cellulitis and phlebitis].
9. Petechiae.
10. Air embolism.
11. Pulmonary thrombosis.

Conclusion

It is evident that venesection (*Fasd*) is one of the most effective types of regimental therapy performed for centuries. In Unani literature various modes of management are discussed but *Fasd* is proving effective in various disorders. Further research and clinical trial should be done on this aspect for scientific validation.

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