

CONCEPT OF FASD (VENESECTION) AND ITS APPLICATION IN PRESENT  
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## ABSTRACT

**Background-** Fasd in Arabic is synonymous to phlebotomy. The art of Venesection / Phlebotomy act of drawing or removing blood from the circulatory system through a cut (incision) or puncture. It is a method, used for Tankia (cleansing and evacuation of morbid materials from the body). **Buqrat/Hippocrates** explained that the balance could be restored by withdrawing measured amounts of the patient's blood. **Aims and Objectives-** To clear the concepts of Fasd and Uruq Mafsuda in the light of Unani as well as Modern perspective and to describe therapeutic use of Fasd in present scenario. **Method -** In this paper we search and consider Unani books like Kitab-Al-Umda fil Jarahat, Kitab Al- Mansoori, Kamil Al-San't, Kulliyat Nafeesi, A History of Human Anatomy, Grey's Anatomy etc. **Conclusion / Future prospective-** Fasd is mostly used in people who are prone to amraze damwia (diseases due to blood impairment) as well as for preventive measures. Fasd is the effective method of evacuation of morbid matter used for the purpose of tankia restoring and maintaining Health.

**KEYWORDS:** Tibbe Unani (Unani medicine), Fasd (Venesection/ Phlebotomy), Istefragh (Evacuation), Akhlat (Humors), Uruq Mafsuda (Bloodletting vessels).

## INTRODUCTION

Tibb-e-Unani is one of the ancient systems of medicine of which many believe that present system of medicine has evolved. **Unani** is synonymous to *Greek or Ionian* and **Tibb** stands for *system of Medicine in Arabic*.<sup>[1]</sup> It can be defined as that system which initiated in Greece (700-480 B.C) but developed during Arab civilization (8<sup>th</sup>-14<sup>th</sup> cent). Tibb has never been static and journeyed through various continents and chronology. Presently, it has been widely practiced in India and Indian subcontinent.<sup>[1]</sup>

In relation to regimenal therapy, **Fasd** (Venesection) is one of the important procedure practiced by Unani physician since a long time, to help alleviate the ills of mankind.

**Fasd** in Arabic is synonymous to phlebotomy. The art of Venesection / Phlebotomy act of drawing or removing blood from the circulatory system through a cut (incision) or puncture, was flourishing well before Hippocrates in the fifth century B.C the practice reached unbelievable heights in the 18<sup>th</sup> and early 19<sup>th</sup> centuries.<sup>[2]</sup> It is a method, used for Tankia (cleansing and evacuation of morbid materials from the body). The objectives of venesection in most instances are diversion (imala-e-mawad), elimination of morbid humours and

emptying of engorged blood vessels at the site of inflammation. Fasd is carried out when there is excess of blood in the body and 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 humours, or the abnormal humours or both. Hence, it is a highly effective treatment for various diseases.<sup>[3]</sup>

According to unani physician, **Buqrat/Hippocrates (460–377 B.C)**, father of medicine believed the four elements, incorporating and describing four fluids or “humors” of the human body: black bile, yellow bile, phlegm, and blood, each of which were associated with certain qualities. Hippocrates believed that these humors were internally balanced with each other, interruptions of this balance caused disease. He also believed that by noting the characteristics of the symptoms, one would be able to identify which humor was out of balance by comparing the qualities of the symptoms to the ascribed qualities of each humor. Once the cause of the disease was diagnosed, one could perform certain behaviors or tasks to increase or decrease their other humors in order to regain the natural balance. If the tasks did not cure the patient, He explained that the balance could be restored by **withdrawing measured amounts of the patient's blood**, or by the administration of certain drugs in order

to flush out the imbalanced humor by induction of vomiting or diarrhoea.<sup>[4]</sup>

According to Unani system of medicine **Asbab (causes)** are the factors which are originators and have an effect of the human body to generate new state or to maintain to old state. Asbab Sitta Zaruriyya are known as six essential factors of life without them the life of humans is unimaginable and they are amongst the important regimens for health prevention. When all the six factor are equipoise, health is maintained; otherwise, it needs moderation and modification. Among these *Ihtibas wa Istifrag* (Retention & Evacuation) is one of the important essential factor.<sup>[5]</sup>

**Uruq Mafsuda:** The veins which are used for venesection or bloodletting in Unani system of medicine are called Uruq Mafsuda (Bloodletting vessels). In the human body there are several veins which are used for the procedure of *Fasd* to treat the diseases.<sup>[6]</sup> It is also imperative that the physician should have good knowledge of anatomy, so that while performing *Fasd*, he may give proper consideration to the adjacent structures. The vein for carrying out *Fasd* should be located with great precision.

In this paper we will report Unani concepts of *Fasd* and its indications in present scenario.

#### REFERENCED UNANI HISTORICAL CONCEPTS OF FASD

**Jalinūs/Galen (129–200 AD)** declared blood as the most dominant humor, the practice of venesection gained even greater importance. His ideas and writings were disseminated by several physicians in the middle Ages when bloodletting became accepted as the standard treatment for many conditions.<sup>[7]</sup>

**Ibn e Abbas Majusi (930-944AD)** stated that the humors mixed in balanced proportions, both in quantity and quality, constitute health and their disproportionate and irregular distribution in quantity or quality, causes disease. This equilibrium is controlled by an innate power of the body called *Tabiyat*.<sup>[7]</sup>

**Ibn-e-sina/ Avicenna (980-1037AD):** Our eminent Unani philosopher **Ibn-e-sina** described the quality of healthy blood, i.e., healthy blood is hot and moist in nature, red in colour, has no unpleasant odour, and has a very sweet taste. And blood consists of all kinds of *Akhlat*, hence is called best of all. When blood is abnormal, it is either altered in temperament or mixing of unhealthy body fluid occurs. So as to maintain all the qualities of normal blood, we can apply *Fasd* for preservation and restoration of health.<sup>[7]</sup>

About *Rules and Methods of venesection* **Ibn-e-Sina** says, Venesection should be stopped when speed becomes slow or when colour of blood changes from

blackish to bright red or pulse becomes shorter and particularly when pulse becomes weaker.<sup>[8]</sup>

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-Qūff al Maseehi 34 veins, Ibn e Hubal Baghdadi 41 and Zakaria Razi 29 veins respectively, Zahrawi has advocated for only 32 veins for venesection. Among them 16 are of head and ten 10 in each hand while 06 in both legs. According to Ali Geelani total number is 36 including veins and arteries while as, other Unani physicians has advocated for 66 veins for venesection.<sup>[3]</sup>

According to **Ibn e Rushd (1126-1198 AD)**, before performing venesection arteries around the vein should be marked. Veins to be venesected should be located properly. Venesection should be stopped when blood colour becomes reddish and consistency becomes moderate. In case by mistake incision is given to another vessel then same day venesection for that particular vein should be avoided.<sup>[3]</sup>

About contraindication of venesection renowned physicians **Ibn e sina** as well as **Ibn e Rushd** said; "Except emergency venesection is strictly prohibited in person below 14 years of age and above 60 years."<sup>[3]</sup>

#### URUQ MAFSUDA (BLOODLETTING VESSELS)

**There are different veins are uses for the purpose of Fasd like**

***Basilic vein:***- mainly used in pleurisy, pain abdomen, hepatomegaly, splenomegaly, piles proctatitis and endometritis.

***Cephalic vein:*** - mainly used in disease of head and neck.

***Median cubital vein:*** - Melancholia, headache and diseases which related to head and neck.

***Branch of Cephalic vein:*** - disease of head and neck.

***Axillary vein:*** - used in chest pain.

***Saphenous vein:***- used in amenorrhoea, backache, arthritis, orchitis.

***Sciatic vein:*** - used in Gout, varicose and vertigo.<sup>[9,10]</sup>

#### Procedures

##### Materials

Sterile Scalpel

Sterile Cotton

Bandage

Antiseptic Lotion

Gloves

I.V Canula set

#### Methods

**1.** The method for Venesection was followed with utmost caution. The sites that have been decided to perform Venesection were cleaned thoroughly. After cleaning, patients were applied proximally to make the vein more prominent. Local anesthetic agents like Kafour

(Cinamomum Camphora Linn), Ajwain Khurasani (Hyoscyamus Niger) should be applied to numb the site before venesection.

2. The needle is inserted in a selected vein (cephalic vein) was chosen for drawing blood and an approximately 20 – 25 ml of blood was drawn into a kidney tray or collection bag and after drawing the required blood, sterile plaster was applied to the punctured site and the patients were advised to take precautions to avoid infection at the site.

3. Patients were advised regarding food, exercise, which should be light and then gradually made to normal food. The patient is advised to avoid heavy meals and physical activity, immediately after the procedure.

4. The patient should be kept under close observation to avoid severe hemorrhage, hypovolemic shock, fainting, agitation and disturbance of body humors, hematoma formation, infection & petechial hemorrhage and specifically embolism & pulmonary thrombosis.<sup>[11]</sup>

## DISCUSSION

### Indication of Fasd given by Unani physician

Venesection (*Fasd*) is carried out when there is excess of blood in the body.

It is also carried out when the patient is either exposed to the risk of developing a disease or has actually developed one.

Sanguineous sciatica, gout and rheumatism.

Recurrence of haemoptysis from excess of the blood rupturing partially healed blood vessels.

Convulsions, coma, and melancholia.

Swelling of throat and internal organs.

Hot (inflammatory) type of conjunctivitis following the stoppage of habitually bleeding piles and amenorrhea. In these cases complexion gives no indication because it may be dark, pale or greenish in colour.

Excessive heat or weakness in the internal organs.

It is recommended in wounds and contusions as a prophylactic against inflammation.

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.<sup>[12]</sup>

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.<sup>[12]</sup>

**Fever:** 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.<sup>[12]</sup>

**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 effective.<sup>[12]</sup>

### Contraindications

Venesection (*Fasd*) is contraindicated in:

Excessively cold temperament.

Extremely cold climate.

Severe pain.

After resolving baths.

After coitus.

In children under fourteen years of age.

Those who are flabby and have pale puffy complexion.

In elderly persons above sixty years of age.

With a full stomach.

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.

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.<sup>[12]</sup>

It is not suitable in colic.

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.<sup>[12]</sup>

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.

It should be avoided in acute irritative (infective) fevers, and on the days of paroxysms.<sup>[12]</sup>

## USE OF VENESECTION IN PRESENT TIME

### Indications for therapeutic phlebotomy

**Polycythemia vera:** Polycythemia vera is a clonal progressive myeloproliferative disorder that is associated with significant erythrocytosis and is characterized by the increased bone marrow production of erythrocytes, which leads to an increase in their numbers and higher blood viscosity. The production of white blood cells and platelets can also be increased.

Therapeutic phlebotomy is the best choice for initial therapy, and one of its key treatment objectives is to reduce the risk of these thrombotic events. This is because patients with polycythemia vera have an increased risk of thrombotic events, such as cerebrovascular disease, cardiovascular disease, and arterial or venous thromboembolism.

Previous studies regarding polycythemia vera have indicated that patients who received phlebotomy exhibited a lower incidence of hematomas and solid tumors, and other studies have reported that phlebotomy-induced maintenance of target hematocrit levels (<45%) was associated with significantly lower cardiovascular morbidity and a lower incidence of major thrombotic diseases.<sup>[13]</sup>

### Hemochromatosis

Phlebotomy can also be performed in hypoxic conditions, such as those that occur during chronic lung disease or hemochromatosis. Patients with hypoxic lung disease who exhibit symptoms of hyperviscosity syndrome or have elevated hematocrit levels (>56%) should undergo phlebotomy to reduce their hematocrit levels to 50%–52%.<sup>[13]</sup>

Although phlebotomy does not clinically improve hemochromatosis, it can prevent complications in patients with symptoms or organ damage. Continuous phlebotomy is recommended until the patient's serum ferritin levels are  $\leq 50$  ng/mL and their transferrin saturation is <50%.<sup>[13]</sup>

Furthermore, the 2011 practice guidelines for hemochromatosis treatment from the American Association for the Study of Liver Diseases indicate that phlebotomy induces various therapeutic responses in hemochromatosis, which include the normalization of tissue iron levels, improved patient survival and cardiac function, and reduced abdominal pain and pigmentation.

### Porphyria cutanea tarda

Porphyria cutanea tarda is a disease that is characterized by uroporphyrinogen accumulation, which is related to low levels of uroporphyrinogen decarboxylase. Therapeutic phlebotomy is the optimal treatment for this disease, and hydroxychloroquine treatment is a good alternative. In these cases, phlebotomy should be repeated every 2 weeks until the Hb levels are <20 ng/mL.<sup>[13]</sup>

### Sickle cell disease

Sickle cell disease (SS or SA variants) may benefit from phlebotomy alone or in combination with hydroxyurea. This is because phlebotomy decreases the blood's viscosity by reducing the Hb levels and the mean corpuscular Hb concentration, which subsequently reduces the HbS polymerization that is observed during sickle cell disease. Bouchair et al reported that frequent phlebotomies reduced hospitalization duration and lowered Hb levels without any adverse events, although only patients with high Hb levels were likely to benefit from phlebotomy. Rombos et al demonstrated that weekly phlebotomy improved the duration, frequency, and severity of pain crises and suggested that regular phlebotomies were associated with a considerable placebo effect.<sup>[13]</sup>

### Conclusion / Future prospective

In old era renowned physician described the concepts of Fasd its methods, indications and contraindication in a very authentic way. Fasd is mostly used in people who are prone to amraze damwia (diseases due to blood impairment) as well as for preventive measures. According to Buqrat, balance could be restored by withdrawing measured amounts of the patient's blood. At present time it is used in a various blood disorder like Polycythemia vera, Hemochromatosis and Sickle cell disease in a different countries which is based on concept of Hippocrates about Fasd. So we can say that Fasd is the effective method of evacuation of morbid matter used for the purpose of tankia restoring and maintaining Health.

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