

# CONCEPT AND MANAGEMENT OF *ISTISQĀ'* (OEDEMA) IN UNANI SYSTEM OF MEDICINE

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## ABSTRACT

Ascites is the accumulation of fluid in the peritoneal cavity, and it is generally allied with liver disease like cirrhosis of the liver. The ascites is commonly associated with liver cirrhosis, malignancy, or cardiovascular disease today. The liver cirrhosis is the most significant cause of ascites in developed countries as per the available data. In the modern medicine system, the treatment includes the restriction of sodium intake, use of diuretics, and paracentesis done in severe cases. There are many side effects of synthetic chemical diuretics, and their long-term use is not recommended. The alternative medicine like Unani system of medicine provides natural diuretics and drugs which also have protective effects on kidney, liver and other internal organs. It is well known in all drug systems that the prognosis is poor in ascites, but the use of Unani herbal medicines can minimize the side effects caused by synthetic chemical diuretics. The natural herbs used for the management of ascites have fewer side effects as compared to synthetic drugs. The natural drugs can be used for longer duration and provide some dietary supplement which improves the quality of life. This review addressed the thorough treatment of ascites by natural diet and medications.

**Keywords** Ascites, anemia, hypoproteinaemia, *Istisqā' Lahmī*, *Istisqā' Tabli*, *Istisqā' Ziqqī*, oedema, Unani

## INTRODUCTION

As per modern concept ascites, the fluid accumulation took place inside the peritoneal cavity and developed in 60% of patients with liver disease like cirrhosis of the liver (Gines, 1987). It is still a widespread problem in patients with liver cirrhosis, malignancy, or cardiovascular disease. The liver's cirrhosis is the most significant cause of ascites (75-85%) in Western Europe and the United States of America [EASL, 2010; Runyon, 2013]. The leading cause of ascites includes portal hypertension which induces the activation of the vasoactive systems and averts renal excretion of sodium, resulting to the accumulation of sodium over and above the average value (Ripoll, 2007). The accumulation of excessive sodium contributes to fluid buildup in the abdominal cavity via different reactions (Schrier, 1988). The development of ascites is associated with a poor prognosis and impaired life quality in patients with cirrhosis (Tandon, 2008). The probability of survival, five years after decompensation by ascites is about

20%, only (Arroyo, 1986).

### *Istisqā'* (Oedema) in Unani System of Medicine

In Unani system of Medicine (USM) *Sū'al-Qinya* (anaemia with hypoproteinaemia) and *Istisqā'* (oedema) are described as a common disease, and *Sū'al-Qinya* is considered to occur first, which is followed by *Istisqā'* (oedema). *Sū'al-Qinya* (anaemia with hypoproteinaemia) is derangement of the liver's temperament, leading to bad blood production in terms of quantity and quality. It is a severe humoral disease which is difficult to treat. The impaired liver function either by the liver itself or due to association with other diseases is the leading cause of the disease (SUMT, 2012; Khan, 1987; Ahmad, 2008). The disease starts with hepatic insufficiency (*Du'f al-Kabid*), and all sign & symptoms of hepatic insufficiency are seen in the initial stage. If not treated accordingly, the disease progress in severity and *Istisqā'* (oedema) appears as a second stage. In this stage condition, the patients worsen, and cardiac insufficiency (*Du'f al-Qalb*) and cerebraesthesia (*Du'f al-Dimagh*) start and hepatic insufficiency worsen. The overall condition of the patients deteriorates gradually, and other organs of the body got affected. When it became stable, this condition's treatment is tough; at this stage, it is called *Istisqā'* (oedema) (Khan, 1987; Ahmad, 2008).

*Istisqā'* (Oedema) is a generalized swelling of the body, primarily due to the liver's involvement and occurs after *Sū'al-*

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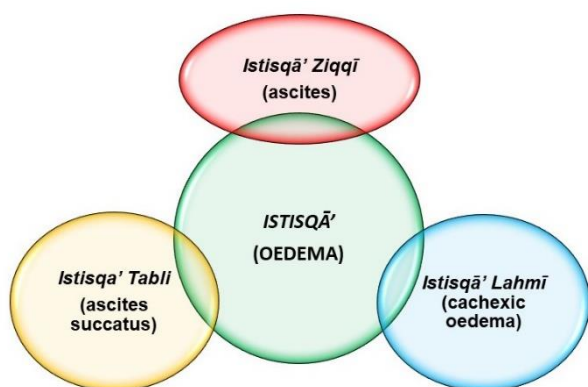
*Qinya* (anaemia with hypoproteinaemia). The liver's involvement is a must in this condition and sign, and symptoms related to the liver's insufficiency or weakness are associated with this condition. The word *Istisqā'* is used for oedema or generalized swelling in Unani system of medicine, and it is further classified according to the involvement of the substances or matter or deranged humour.

### Types of *Istisqā'* (Oedema)

As per Unani classical literature, oedema can be divided into three major categories based on the involvement or accumulation of fluid, matter or gas, and it is categorized as (Fig.1)

1. *Istisqā' Lahmī* (cachexic oedema/anasarca)
2. *Istisqā' Ziqqī* (ascites)
3. *Istisqā'' Tabli* (ascites succatus)

*Istisqā' Lahmī* (cachexic oedema/anasarca) is a type of swelling of the body due to cachexia. It is generalized and massive oedema of the body. It is caused due to accumulation of deranged phlegm (*Balgham*) in all organs of the body. *Istisqā' Ziqqī* (ascites) is the collection of fluid in the peritoneal cavity. It is due to increased transudation from the portal vein. *Istisqā'' Tabli* (ascites succatus) is the collection of condensed gases or mixed fluid in the abdominal cavity. The condensed gases are formed by deranged matters and improper or impaired digestive function (SUMT, 2012; Khan, 1987).



### Etiology of *Istisqā'* (Oedema)

There are several causes mentioned in the literature for the development of oedema in the body. Drinking cold water or ice immediately after sexual intercourse or returning from sunlight or after walking for a long time or after heavy exercise and physical activities and consuming a cold and liquid diet in excessive amount for a long duration. These conditions weaken the liver and produce hepatic insufficiency, producing phlegm (*balgham*) in large quantities. This phlegm is not processed correctly in the liver and distributed to all over the body without attaining the mature state and does not provide nutrition to the tissues and causes cachexic oedema or anasarca (*Istisqā' Lahmī*) in the whole body. Sometimes, due to the causes as mentioned above, diet becomes deranged and converted into pathological liquid accumulates in the peritoneum, and this condition is known as uncomplicated ascites (*Istisqā' Ziqqī*). In some cases, deranged diet converted into thick pathological liquid and produces gasses which accumulates in the cavities and known as ascites succatus (*Istisqā'' Tabli*) (Khan, 1987).

According to Ibn-i-Sina, in normal physiological condition, transformative faculty (*Quwwat Mughayyira*) of the liver performs vast, extensive functions by which the entire body is benefitted. During metabolic processes, production of energy and transformation of significant blood constituents takes place in the liver. Hepatic insufficiency is caused by chronic inflammatory conditions, fevers and infections etc. The digestive system and its stages of digestion, i.e., alimentary digestion (*Hadm Mi'dī*), hepatic digestion (*Hadm Kabidī*), vascular digestion (*Hadm 'Uruqī*) and organic digestion (*Hadm 'Udwi*) become weak and leads to insufficiency of blood in the body (Ibn Sīnā, 1895).

### Sign & Symptoms of *Istisqā'* (Oedema)

As per Unani system of medicine, this condition is characterized by changes in the body colour, puffiness of the face, eyelids, upper arms, or whole-body, lethargy, paleness, loss of appetite, constipation, alternate diarrhoea, impaired digestion, increased flatulence, disturbed or deep sleep and decreased healing process (Khan, 1987; Ahmad, 2008). Other features include gingivitis and psychogenic disorders (Ibn Sīnā, 1895). In severe condition, the stomach bulging occurs due to accumulation of fluids or gas in the peritoneal cavity (Khan, 1987; Ahmad, 2008; Ibn Sīnā, 1895).

### Management of *Istisqā'* (Oedema)

As per the Unani literature, the *Istisqā'* (Oedema) management is not easy, and at the beginning of the disease, it can be treated with success; otherwise, it is difficult to treat. The *Mundij* (concoctive) and *Mushil* (purgative) therapy is advised in this condition. The proper use of diuretics, tonics and moderators for liver and kidney are recommended for the management. The use of appropriate diet, sufficient exercise and application of regimenal therapy are recommended in its management. Careful management is given in Unani literature as per the following regimen (Khan, 1987; Ahmad, 2008).

### Drug therapy ('*Ilāj bi'd-Dawā*)

The renowned physicians of Unani system of medicines have described comprehensive management of the *Istisqā'*. According to Rabban Tabari (775-890 AD), all types of *Istisqā'* are difficult to treat, and the prognosis is very poor, but *Istisqā' Lahmī* can be treated with some success as compared to other (Rabban, 1928). As per Ibn Sīnā [980-1037 AD], the water of *Muli* (the root of *Raphanus sativus*) is good for the treatment of *Istisqā'* (Ibn Sīnā, 1895). *Darchini* (bark of *Cinnamomum zeylanicum*), *Zufa* (Flower of *Hyssopus officinalis*), *Chirayita* (whole herb of *Swertia chirata*), *Ghariqoon* (*Polyporus officinalis*), *Kharkhask* (*Pedaliun murex*), *Ushk* (gum of *Dorema ammoniacum*) are beneficial drugs for *Istisqā'*. *Beikh Qisa-ul-Himar* (the root of *Luffa cylindrica*) removes water contents of the *Istisqā'*, and it is the drug of choice for it. The drugs used in these cases should be changed accordingly, and the same drug should not be used for a long time (Ahmad, 2008). *Mundij* (concoctive) and *Mushil* (purgative) therapy is required in case of accumulation of deranged humour in the organ. Different concoctive drugs are recommended for different types of ascites according to the humour involved or as per the underlying cause of the ascites (Khan, 1987).

*Mundij* (concoctive) is an agent which matures and prepares the morbid humour for evacuation from the body (SUMT, 2012; Khan, 1987), while *Mushil* (purgative) is a drug which helps in the expulsion of morbid humour in the form of loose motions by intestines. This treatment mode is generally

adopted to evacuate bad humour of stomach, intestines, liver and joints (SUMT, 2012; Khan, 1987).

Unani physicians document number of regimens (*Nuskhas*) either from previous knowledge or by their own clinical experience. Few regimens are noted here, the first is *Berg Kasondi* (leaves of *Cassia occidentalis*) 10 gm, *Filfil Siyah* (*Carum carvi*) 5 pieces, grinds these with water and consume in the morning. The calefaction (*Taskhīn*) and moderation of liver (*Tadil-e-Jigar*) is one of the principle of treatment in case of *Istisqā'* (Oedema) and for this following drugs as a regime can be taken, e.g. *Gul-e-Ghafis* (flower of *Gentiana olivieri*) 5 gm, *Mavez Munaqqa* (fruit of *Vitis vinifera*) 9 pieces, *Badiyan* (seeds of *Foeniculum vulgare*) 7 gm, *Tukhm Kharpaza* (seeds of *Cucumis melo*) 5 gm, *Tukhm Kasni* (seeds of *Cichorium intybus*) 7 gm, *Beikh Kasni* (the root of *Cichorium intybus*) 7 gm, *Tukhm Kasoos* (seeds of *Cuscuta reflexa*) 5 gm, dip all the drugs in water overnight and consume in the morning by filtering it through muslin cloth with *Sharbat-e-Deenar* (compound formulation) 50 ml (Ahmad, 2008).

For external use the paste of the following drugs is recommended, e.g., *Maghz-e-Faloos Khiyarshambar* (pulp of the fruit of *Cassia fistula*) 9 gm, *Gul-e-Babuna* (flower of *Matricaria chamomilla*) 6 gm, *Iklilul Malik* (pods of *Trigonella uncata*) 6 gm, *Sumbul-ut-Tib* (the root of *Nardostachys jatamansi*) 6 gm, *Saad Kufi* (roots of *Cyperus scariosus*) 6 gm, *Rewand Chini* (the root of *Rheum emodi*) 6gm with the fresh juice of the leaves of *Mako* (fruit of *Solanum nigrum*) and apply on the affected part as lukewarm (Ahmad, 2008).

In *Istisqā'* *Ziqqī* (ascites), the same treatment is recommended as described above with slight modifications. It is advised to consume *Majoon-e-Turbud* (compound formulation) 7 gm, *Sharbat-e-Asaroon* (compound formulation) 24 ml with *Arq Kasni* (a distillate of *Cichorium intybus*) 100 ml twice daily. *Habb-e-Istisqā'* (compound formulation) in the dose of 2 tablets is recommended at bedtime. If complete elimination of morbid matter (*Tanqiya*) is required than 3-4 *Mushil* can be given. After that oral administration of, *Badiyan* (seeds of *Foeniculum vulgare*) 5 gm, *Tukhm Kasoos* (seeds of *Cuscuta reflexa*) 3 gm, *Anisoon* (seeds of *Pimpinella anisum*) 3 gm, by grinding in *Arq Biranjasif* (a distillate of *Achillea millefolium*) 50 ml with *Dawa-ul-Kurkum Kabir* (compound formulation) 5 gm and *Khamira Banafsha* (compound formulation) 50 gm for one week is recommended. If constipation is present, *Sharbat-e-Deenar* (compound formulation) can be given in place of *Khamira-e-Banafsha* (Khan, 1987).

If diuresis is required then, *Asalussoos* (the root of *Glycyrrhiza glabra*) 5 gm, *Tukhm Khiyarain* (seeds of *Cucumis sativus*), 5 gm can be used by grinding in water with *Habb-e-Qurtum* (compound formulation), 5 gm and *Sharbat-e-Bazuri* (compound formulation) 20 ml. If these regimens do not work, then paracentesis is recommended to remove water from the peritoneal cavity. The fluid should be removed slowly in small quantity in several shifts (Khan, 1987).

In *Istisqā'* *Lahmī* (cachexic oedema/anasarca) following regimen can be used, e.g. *Mako* (fruit of *Solanum nigrum*) 5 gm, *Maveez Munaqqa* (fruit of *Vitis vinifera*) 9 pieces, *Beikh Kasni* (the root of *Cichorium intybus*) 7 gm, *Beikh Badiyan* (the root of *Foeniculum vulgare*) of 5 gm, *Parsioshan* (whole herb of *Adiantum capillus-veneris*) 7gm, *Gul-e-Ghafis* (flower of *Gentiana olivieri*) 5 gm, *Badiyan* (seed of *Foeniculum vulgare*) 7 gm, *Tukhm Khiyarain* (seeds of *Cucumis sativus*) 7 gm, *Tukhm Kasoos* (seeds of *Cuscuta reflexa*) 5 gm, *Asalussoos Mukasshar* (roots of *Glycyrrhiza glabra*) 5 gm put all drugs in water overnight and in the morning make a decoction of it and

consume with *Khamira Banafsha* (compound formulation) 50 gm or *Gulqand Asli* (compound formulation) 50 gm for eight days (Khan, 1987). On a ninth day add *Ood* (bark of *Aquilaria agallocha*) 5 gm, *Mastagi* (gum of *Pistacia lentiscus*) 3 gm, *Darchini* (bark of *Cinnamomum zeylanicum*) 5 gm, *Sana Makki* (leaves of *Cassia angustifolia*) 7 gm in above mentioned *Mundij* formulation and in the morning the decoction with *Maghz-e-Faloos* (pulp of the fruit of *Cassia fistula*) 60 gm, *Sheer Khasht* (gum of *Fraxinus ornus*) 50 gm, *Turanjabeen* (gum of *Alhagi cametorum*) 50 gm, *Shakar Surkh* (jaggery) 50gm, *Sheera Maghz Badam* (seeds of *Prunus amygdalus*) 5 pieces is given. Next day *Tabrid* (cooling) regimen is given. After repeating it thrice *Tukhm Kasoos* (seeds of *Cuscuta reflexa*) 3 gm, *Badiyan* (seeds of *Foeniculum vulgare*) 5 gm, *Mako* (fruit of *Solanum nigrum*) 3 gm, ground in *Arq Biranjasif* (a distillate of *Achillea millefolium*) 120 ml is consumed with *Dawaul Kurkum Kabir* (compound formulation), 5 gm, *Khamira Banafsha* (compound formulation) 50 gm for one week (Khan, 1987). The drugs used in *Istisqā'* *Ziqqī* are also useful in this condition. The *Sakbenaj* (gum of *Ferula persica*) is also helpful in this condition (Ahmad, 2008).

Joshanda Abhal (decoction of *Juniperus communis* L.) is very effective in this condition: The decoction of *Abhal* (fruits of *Juniperus communis*) is prepared by boiling the *Abhal* in water till the colour of decoction become red. Consume this water alone or with 10 gm *Abhal* powder (Ahmad, 2008). As per *Ibn Hubl*, *Majoon* made up of following drugs is useful in this condition, i.e., *Sumbul-ut-Tibb* (*Nardostachys jatamansi*), *Shagufa-e-Izkhar* (*Cymbopogon schoenanthus*) and *Asaroon* (roots of *Asarum europaeum*) two-part and *Qust* (the root of *Saussurea lappa*), *Miya Sailsa* (gum of *Liquidamber orientalis*) and *Darchini* (bark of *Cinnamomum zeylanicum*) one part powdered and mixed with honey to make *Majoon* and consume 3.5 gm with *Ma-al-Usool* (specific root juice) (Baghdadi, 2004).

In *Istisqā'* *Tabli* (ascites succatus), the same regimen as mentioned in *Istisqā'* *Lahmī* with addition of *Anisoon* (seeds of *Pimpinella anisum*) 5 gm, *Darchini* (bark of *Cinnamomum zeylanicum*) 5 gm, *Zeera siyah* (seeds of *Carum carvi*) 5 gm in the evening is recommended. Another regimen may be taken as *Badiyan* (seeds of *Foeniculum vulgare*) 5 gm, *Anisoon* (seeds of *Pimpinella anisum*) 3 gm, *Zeera Siyah* (seeds of *Carum carvi*) 3 gm, *Zanjabeel* (rhizome of *Zingiber officinale*) 3 gm, *Dana Heel* (seeds of *Ammomum subulatum*) 3 gm, ground in *Arq Badiyan* (a distillate of *Foeniculum vulgare*) 72 ml, *Arq Pudina* (a distillate of *mentha arvensis*) 72 ml and consumed with *Sharbat Deenar* (compound formulation) 50 gm. The *Mushil* is given after eight days of *Mundij* therapy. Externally dry fomentation (*Takmid Yabis*) is recommended by putting the *Bajra Khushk* (dry Millet), *Namak Toam* (common salt) and *Ret* (sand) in a cotton cloth and applying it after heating on frying pan externally on the affected part (Khan, 1987; Ahmad, 2008).

According to *Al Qamari*, consuming *Ustukhuddus* (whole herb of *Lavandula stoechas*) orally in the dose of 10.5 gm daily in the morning is very useful in *Istisqā'* *Tabli* (*Al Qamari*, 1839).

#### Dietotherapy ('*Ilaj bi'l Ghizā*)

As per Unani concept *Garm* and *Khushk* (hot and dry), *Ghiza* (diet) is recommended like simple broth (*shorba*) of goat's meat or *yakhni* (special broth made up of goat bones and meat) with spices (*garam masalha*). Bread (*roti*) prepared with common salt and baking soda may be consumed with broth made up of meat.

*Yakhni* (special broth made up of bones and meat) of chicken (*murg*), grey francolin (*teetar*), common quail (*bater*) and *chukar* partridge (*Chakor*) with spices (*garam masalha*) prepared without using ghee. Pickle of *Muli* (the root of *Raphanus sativus*) which is submerged in *Sitka* (vinegar) is useful while chutney of *puḍina* (mint) with *adrak* (ginger) and *zeera* (cumin) may be used (Ahmad, 2008). As per *Allama Antaki*, Milk of camel is also very useful in managing all types of *Istisqā'* (ascites) (Antaki, 1930). As per Al Qamari, no food should be given until 9 hours completed from the morning, which decreases the amount of fluid in the body (Al Qamari, 1839).

### Regimenal Therapy ('Ilāj bi'l Tadbīr)

As per Ibn Sina, the paste of seashell (*sadaḡ*) is applied to the affected area, it remains there for a long time and does not separate or challenging to separate. It is recommended that it not be removed and separate without interference or force

(Ahmad, 2008). According to Razi, sitting in hotpots like clay oven (tandoor) is a beneficial process in the treatment of *Istisqā'*, because it removes deranged fluid (*mawad-e-badan*) from the body (Razi, 1991). In the initial stage of the disease, exercise one hour before the meal is advised. *Hammam* (hot bath) is recommended while *Fasd* (venesection) is contraindicated in all types of *Istisqā'* (Khan, 1987; Ahmad, 2008).

### Restrictions (Parhez)

In the case of thirst and appetite, the person should be advised to have patience and avoid as much as possible to take water or diet. *Arq Mako* (a distillate of *Solanum nigrum*) and *Arq Badiyan* (a distillate of *Foeniculum vulgare*) should be used in place of water in case of thirst. Fatty diet and diet taking a longer time to digest should be avoided (Khan, 1987; Ahmad, 2008).

Table 1. Single Unani drugs used in *Istisqā'* (Oedema)

Unani Name	Botanical/Scientific Name	Unani pharmacological actions
Anisoon	Seeds of <i>Pimpinella anisum</i>	<i>Munaffith-i-Balgham</i> (expectorant), <i>Mudirr-i-Bawl</i> (diuretic) [Kabir, 1955; Ghani, 2011]
Asalussoos	Root of <i>Glycyrrhiza glabra</i>	<i>Munaffith-i-Balgham</i> (expectorant), <i>Mudirr-i-Bawl</i> (diuretic) [Kabir, 1955; Ghani, 2011]
Asaroon	<i>Asarum europaeum</i>	<i>Mufattiḥ</i> (deobstruent), <i>Mudirr-i-Bawl</i> (diuretic) [Kabir, 1955; Ghani, 2011]
Badiyan	Seeds of <i>Foeniculum vulgare</i>	<i>Munaffith-i-Balgham</i> (expectorant), <i>Mudirr-i-Bawl</i> (diuretic) [Kabir, 1955; Ghani, 2011]
Beikh Kasni	root of <i>Cichorium intybus</i>	<i>Mufattiḥ</i> (deobstruent), <i>Mudirr-i-Bawl</i> (diuretic) [Kabir, 1955; Ghani, 2011]
Chirayita	Whole herb of <i>Swertia chirata</i>	<i>Muqawwi-i-Jigar</i> (hepatotonic), <i>Mudirr-i-Bawl</i> (diuretic) [Kabir, 1955; Ghani, 2011]
Filfil Siyah	Seeds of <i>Carum carvi</i>	<i>Munaffith-i-Balgham</i> (expectorant), <i>Mudirr-i-Bawl</i> (diuretic) [Kabir, 1955; Ghani, 2011]
Darchini	Bark of <i>Cinnamomum zeylanicum</i>	<i>Munaffith-i-Balgham</i> (expectorant), <i>Muqawwi-i-Jigar</i> (hepatotonic) [Kabir, 1955; Ghani, 2011]
Ghariqoon	<i>Polyporus officinalis</i>	<i>Munaffith-i-Balgham</i> (expectorant), <i>Mudirr-i-Bawl</i> (diuretic) [Kabir, 1955; Ghani, 2011]
Gul-e-Babuna	Flower of <i>Matricaria chamomilla</i>	<i>Muqawwi-i-Mi'da</i> (stomachic), <i>Mudirr-i-Bawl</i> (diuretic) [Kabir, 1955; Ghani, 2011]
Gul-e-Ghafis	Flower of <i>Gentiana olivieri</i>	<i>Mufattiḥ</i> (deobstruent), <i>Mudirr-i-Bawl</i> (diuretic) [Kabir, 1955; Ghani, 2011]
Iklilul Malik	Pods of <i>Trigonella uncata</i>	<i>Mudirr-i-Bawl</i> (diuretic) <i>Muhallil-e-Waram</i> (resolvent of inflammation), [Kabir, 1955; Ghani, 2011]
Kharkhask	<i>Pedaliū murex</i>	<i>Mudirr-i-Bawl</i> (diuretic) [Kabir, 1955; Ghani, 2011]
Maghz-e-Faloos Khiyarshambar	The pulp of the fruit of <i>Cassia fistula</i>	<i>Munaffith-i-Balgham</i> (expectorant), <i>Muhallil-e-Waram</i> (resolvent of inflammation) [Kabir, 1955; Ghani, 2011]
Mako	Fruits of <i>Solanum nigrum</i>	<i>Muhallil-i-Waram</i> (resolvent of inflammation), <i>Mufattiḥ</i> (deobstruent) [Kabir, 1955; Ghani, 2011]
Mastagi	Gum of <i>Pistacia lenticus</i>	<i>Muqawwi-i-Jigar</i> (hepatotonic), <i>Munaffith-i-Balgham</i> (expectorant) [Kabir, 1955; Ghani, 2011]
Mavez Munaqqa	Fruit of <i>Vitis vinifera</i>	<i>Muqawwi-i-Jigar</i> (hepatotonic), <i>Munaffith-i-Balgham</i> (expectorant) [Kabir, 1955; Ghani, 2011]
Qust	Root of <i>Saussurea lappa</i>	<i>Muqawwi-i-Jigar</i> (hepatotonic), <i>Munaffith-i-Balgham</i> (expectorant) [Kabir, 1955; Ghani, 2011]
Rewand Chini	Root of <i>Rheum emodi</i>	<i>Munaffith-i-Balgham</i> (expectorant), <i>Muqawwi-i-Mi'da</i> (stomachic) [Kabir, 1955; Ghani, 2011]
Sana Makki	Leaves of <i>Cassia angustifolia</i>	<i>Munaffith-i-Balgham</i> (expectorant) [Kabir, 1955; Ghani, 2011]
Shagufa Izkhar	Fluorescence of <i>Cymbopogon schoenanthus</i>	<i>Munaffith-i-Balgham</i> (expectorant), <i>Mudirr-i-Bawl</i> (diuretic) [Kabir, 1955; Ghani, 2011]
Sumbul-ut-Tib	Root of <i>Nardostachys jatamansi</i>	<i>Muhallil-i-Waram</i> (resolvent of inflammation), <i>Musakhkhin</i> (calorific) [Kabir, 1955; Ghani, 2011]
Parsioshan	Whole herb of <i>Adiantum capillus-veneris</i>	<i>Munaffith-i-Balgham</i> (expectorant), <i>Mudirr-i-Bawl</i> (diuretic) [Kabir, 1955; Ghani, 2011]
Tukhm Kasni	Seeds of <i>Cichorium intybus</i>	<i>Mufattiḥ</i> (deobstruent), <i>Mudirr-i-Bawl</i> (diuretic) [Kabir, 1955; Ghani, 2011]
Tukhm Kasoos	Seeds of <i>Cuscuta reflexa</i>	<i>Muhallil-i-Waram</i> (resolvent of inflammation), <i>Munaffith-i-Balgham</i> (expectorant) [Kabir, 1955; Ghani, 2011]

Tukhm Khiyarain	Seeds of <i>Cucumis sativus</i>	<i>Mudirr-i-Bawl</i> (diuretic) [Kabir, 1955; Ghani, 2011]
Turanjabeen	Gum of <i>Alhagi cametorum</i>	<i>Munaffith-i-Balgham</i> (expectorant), <i>Mushil-i-Safrā'</i> (cholagogue) [Kabir, 1955; Ghani, 2011]
Ushk	Gum of <i>Dorema ammoniacum</i>	<i>Munaffith-i-Balgham</i> (expectorant) [Kabir, 1955; Ghani, 2011]
Zufa	Flower of <i>Hyssopus officinalis</i>	<i>Munaffith-i-Balgham</i> (expectorant), [Kabir, 1955; Ghani, 2011]

### Compound Unani formulations used in Istisqā' (Oedema)

Apart from single drugs, different compound formulations have also been described in Unani literature that can be used as readymade medicine and have various activities. Unani physicians generally use these formulations to treat liver problems and can be used in the management of *Istisqā'* because the liver is affected in this condition (NFUM, 2006; NFUM, 2007; NFUM, 2008; NFUM, 2011).

*Habb-e-Khabsul Hadeed* (tablet), *Habb-e-Miskeen Nawaz* (tablet), *Habb-e-Mushil Istasqae* (tablet), *Qurs-e-Isqeel* (tablet), *Dawa-ul Luk* (semisolid formulation), *Majoon-e-Khabsul Hadeed* (semisolid formulation), *Mufarreh-e-Sosambari* (semisolid formulation), *Majoon-e-Kaknaj* (semisolid formulation), *Arq-e-Afsanteen* (a distillate of *Artemisia absinthium*), *Arq-e-Kasni* (a distillate of *Cichorium intybus*), *Arq-e-Mako* (a distillate of *Solanum nigrum*) and *Sikanjabeen-e-Sada* (syrup) (NFUM, 2006). *Habb-e-Rewand* (tablet), *Qurs-e-Istisqā'* (tablet), *Qurs-e-Luk* (tablet), *Qurs-e-Zarishk* (tablet), *Qurs-e-Gul* (tablet), *Majoon-e-Gul* (semisolid formulation), *Majoon-e-Rewand* (semisolid formulation), *Majoon-e-Hafizul Ajsad* (semisolid formulation), *Majoon-e-Buqrat* (semisolid formulation), *Jawarish-e-Darchini Qawi* (semisolid formulation), *Jawarish-e-Safra Shikan* (semisolid formulation) (NFUM, 2007). *Majoon-e-Dabidulward* (semisolid formulation), *Majoon-e-Kundur* (semisolid formulation), *Jawarish-e-Safarjali Mushil* (semisolid formulation), *Jawarish-e-Zarooni* (semisolid formulation) and *Arq-e-Biranjaisif* (a distillate of *Achillea millefolium*) (NFUM, 2008). *Jawarish-e-Aamla Luluvi* (semisolid formulation), *Tehali* (syrup) and *Fawakeheen* (syrup) (NFUM, 2011). *Arq-e-Badiyan* (a distillate of *Foeniculum vulgare*), *Arq-e-Pudina* (a distillate of *Mentha arvensis*), *Dawa-ul-Kurkum Kabir* (semisolid formulation), *Khamira-e-Banafsha* (semisolid formulation), *Sharbat-e-Deenar* (syrup) and *Sharbat-e-Bazoori* (syrup) (Khan, 1987; Ahmad, 2008).

## DISCUSSION

In Modern system of medicine, the management of ascites is done according to the severity of the disease. In moderate condition, dietary sodium restriction and use of diuretics are recommended. A moderate salt intake restriction is generally recommended, e.g., sodium of 80-120 mmol/day, which is equal to 4.6–6.9 gm of salt/day (EASL, 2010; Runyon, 2013). The diuretics are used to achieve a weight loss of nearly 500 gm/day in patients without peripheral oedema and nearly 800-1000 gm/day in those with peripheral oedema. In patients without renal involvement, diuretic therapy is effective in approximately 90% of patients (EASL, 2010; Salerno, 2010). The aldosterone antagonists, mainly spironolactone, diuretics are mostly used which selectively antagonizes the sodium-retaining effects of aldosterone in the renal collecting tubules, and loop diuretics. In patients having recurrent ascites combination diuretic regime (aldosterone antagonists and furosemide) is the most acceptable while patients with first episodes of ascites respond well to single diuretics like spironolactone 50-100 mg/day alone [EASL, 2010]. If there is

no response, then a low sodium-diet and diuretic treatment should be adopted (Runyon, 2013). In severe conditions where the fluid is accumulated in large quantities, large-volume paracentesis is advised to remove liquid, followed by sodium intake restriction (90 mmol/day) and diuretics (EASL, 2010; Runyon, 2013).

Unfortunately, diuretics also have side effects and may cause fluid and electrolytes imbalance such as hyponatremia, hyperkalemia, hypokalemia, dehydration, renal impairment, and hepatic encephalopathy. A particular side effect of spironolactone diuretic is tender gynecomastia and muscle cramps in some patients (EASL, 2010). The long-term use of these diuretics may worsen the condition, and life-threatening adverse effects may be developed.

In the Unani system of medicine, the management of ascites is given in detail and based on the underlying causes of the diseases. The patients' overall condition can be improved by using natural herbal drugs as per the Unani concept of Holism. The concept of *Muqawwi-i-Jigar* (hepatotonic) and *Muqawwi Gurda waMathāna* (tonic for kidney and urinary bladder) is unique for USM and applied in the management of ascites. These tonics improve the overall functions of the liver and kidney by various methods. The concept of *Mudirr-i-Bawl* (diuretic) by natural drugs has action with minimum or no side effects so that these diuretics can be used for a long time. The *Mundij* (concoctive) and *Mushil* (purgative) therapy is used to remove unwanted and deranged matters from the internal organs and can be used as per the ascites' underlying cause.

The concept of *Mudirr-i-Bawl* (diuretic) is somehow different in Unani medicine as here, natural herbs, mineral or animal origin drugs are used in natural form without extracting the active constituents. The use of whole drugs has several benefits over active chemical constituent alone, where the side effects are more and severe compared to natural drug. In Unani system of medicine, the whole body is treated as a single unit and the management of diseases is based on a holistic approach where the removal or modification of underlying cause of the disease is the basis of treatment. There are several drugs in Unani systems which have *Muqawwi* (tonic) actions on various internal organs, and organ-specific drugs are available for each organ of the body. In the case of *Istisqā'* (ascites) the affected organ is liver, and its management includes the drugs, which strengthen the liver's functioning and remove toxic materials from the liver effectively with the help of the kidney. The combination of drugs having *Muqawwi-i-Jigar* (hepatotonic) and *Mudirr-i-Bawl* (diuretic) actions is the best regimen in the management of *Istisqā'* (ascites).

The drugs having *Muhallil-i-Waram* (resolvent of inflammation) and *Munaffith-i-Balgham* (expectorant), also play an essential role in the management of *Istisqā'* (ascites) by removing deranged phlegm from the body which is the primary cause of oedema and by resolving the inflammation caused by the accumulation of deranged phlegm in the tissues and organs. The management of *Istisqā'* (ascites) is not an easy task, and the prognosis is not very good in the advanced stage. However, the use of natural drugs helps the patient in many ways, such as no or minimal side effects of the Unani regimen. It also strengthens the body by giving some nutritive values by natural

herbs easily digested and metabolized in the body without inducing further side effects. The drugs metabolize in liver, which is already weak in *Istisqā'* (ascites), so synthetic drugs further deteriorate the liver's condition by its side effects and will not be adequately metabolized in the body. The herbs which have liver tonic properties can be used here without any doubt as these drugs will strengthen the liver and metabolized effectively to produce maximum effects without any side effect.

## CONCLUSION

In this paper, we have discussed the principle of treatment for various types of ascites with natural drugs in the light of the Unani system of medicine. Some regimens have multi-ingredient drugs and are suitable for a specific condition. It is advocated that the treatment should be started in the initial stage, and the progress of the disease should be checked. It is further stated that although it has a bad prognosis, the drugs recommended in the Unani system of medicine improves the overall condition of the patients if giving with proper diet regimens and some regimenal therapies. It may be concluded that the drugs mentioned in this paper can be used for holistic management of the ascites with an overall improvement of the health of the subject. The scientific preclinical and clinical studies may be done to explore the scientific data to prove the efficacy of these drugs and their possible mechanism of action in the near future.

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## CONFLICT OF INTEREST

Authors declare that there is no conflict of interest

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