

## Sibr (*Aloe barbadensis*): A Broad-Gauge Confine of Conventional and Contemporary Amend

Hilal Akhtar<sup>1\*</sup> and Syed Zeba Husain<sup>2</sup>

<sup>1</sup>Department of Amraz-e-Jild Wa Tazeeniyaat, AIUMC and Hospital, Muzaffarnagar, UP, India

<sup>2</sup>Private Unani Practitioner, Aligarh, UP, India.

Received December 25, 2019; Accepted February 06, 2020; Published July 27, 2020

### ABSTRACT

In many parts of world, there is still a tradition of using herbal drugs to combat various diseases & infections. Sibr is one of the essential components of Unani system of medicine and used by Unani physicians due to it has a lot of medicinal properties since ancient time. It is commonly called aloe-vera and belongs to the Liliaceae family. It is a cactus like herb and grows in hot and arid environment. Unani physicians have been using this drug as a laxative, purgative (phlegm/bile), brain tonic (strengthen brain), stomach tonic (strengthen stomach), liver tonic (strengthen liver), emmenagogue, anti-inflammatory, blood purifier, antibacterial and carminative agent. Hence, this drug having a vital place in Unani system of medicine and text. It is also use to reducing low density lipoprotein, increasing high density lipoprotein, minimizing frost-bite injury, reducing blood glucose level, fighting against acquired immuno deficiency syndrome (AIDS), allergies and boosting immune system. This article was designed to lime light the Aloe barbadensis by describing its brief toxicology, contraindications, traditional, therapeutic and others uses.

**Keywords:** Antibacterial, *Aloe barbadensis*, Sibr, Therapeutic, Unani system of medicine

### INTRODUCTION

*Sibr* (aloe vera) is an extremely popular herbal drug amongst the various currently available herbal remedies and at the moment receiving a lot of scientific attention [1]. *Sibr* is an oldest medicinal plant ever known and most applied medicinal plant globally used for centuries for its health, beauty, cosmetic, vigor, wellness and medicinal properties [2,3]. The word aloe has originated from the Arabic word viz. "Alloeh", meaning a 'shining bitter substance,' whereas "vera" in Latin means "true," about 2000 year back. The Unani scientists considered *Sibr* as the universal panacea and *Egyptians* called it "the plant of immortality." Nowadays, the plant of *Sibr* has been used for different purposes in Dermatology and Cosmetology (Amraaz-e-jild Wa Tazeeniyaat) [3].

### HISTORY

The history of our understanding of *A. barbadensis* parallels the history of scientific knowledge. *Sibr* has been used for its medicinal properties in many cultures such as Greece, Egypt, India, Japan, China and Mexico from thousand years. It is used by Egyptian Queens Nefertiti as beauty regimens. Dioscorides, renowned Unani scholar of Roman era, describe about the *Sibr* in his Medical treatise "De Materia Medica" [3].

### BOTANICAL DESCRIPTION [4]

### Taxonomy

- Kingdom: Plantae
- Order: Asparagales
- Family: Liliaceae
- Genus: *Aloe*
- Species: *A. vera*

### Plant profile [3,5-7]

- Botanical Name: *Aloe barbadensis* Linn.
- Common Name: Aloe Vera
- Family: Liliaceae

### Vernacular names [5,7-10]

- Arabic: Sibr

**Corresponding author:** Hilal Akhtar, Department of Amraz-e-Jild Wa Tazeeniyaat, AIUMC and Hospital, Muzaffarnagar, UP, India, Tel: +919359724544; E-mail: drhilalakhter@gmail.com

**Citation:** Akhtar H & Husain SZ (2020) Sibr (*Aloe barbadensis*): A Broad-Gauge Confine of Conventional and Contemporary Amend. J Biochem Mol Med, 2(2): 102-106.

**Copyright:** ©2020 Akhtar H & Husain SZ. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

- Persian: Shabyar, Alwa
- Hindi: Ailwa, Ghee-kanwar
- Greek: Faiqra
- Sanskrit: Kumarai, Aileekh
- English: Indian aloes
- Romi: Alya

#### Part used

The dried and fresh juice of the leaves, leaf gel, the whole leaves, the gel from the water storing tissue and the roots [7,8,11].

#### Temperament (*Mizaj*)

- Hot and dry in second degree [5,7,8].
- Hot in second degree and dry in third degree [9,12,13].

#### Geographical distribution

There are about 250 species of *A. barbadensis* grown throughout the world. Amongst them 2 species are grown commercially e.g. *A. barbadensis* Miller and *A. arborescens*. It is grown in warm, tropical regions and cannot stay alive in freezing temperature [1].

Aloe vera is a native to North Africa, the Mediterranean region of South Europe, Canary Island, Southern Arabia, and Madagascar. It is now cultivated throughout the West Indies, North and South Tropical America, Caribbean and tropical Asia [14-16]. In India, it grows wild on the coast of Mumbai, Gujarat and South India [17,18].

#### Traditional uses

It is popular amongst various traditional medicines like Chinese, Ayurvedic, Unani etc. In Ayurvedic medicine, it is used internally as a uterine stimulant, laxative, vermicide and hemorrhoid remedy. Topically, it is used to treat various skin disorders like eczema, psoriasis in different proportion with licorice root. In Arabian medicine, the fresh gel of aloe is rubbed on the forehead to lighten the headache and also rubbed on the whole body to cool it in case of pyrexia. It is also use to heal the wound, to cure the conjunctivitis and as a disinfectant [19].

#### Actions (*Afa'al*) [5-8,10,12,18,20-23]

Laxative/cathartic, purgative (phlegm/bile), Tonic to stomach and liver, vermicide emmenagogue, antiulcerogenic, anti-inflammatory, anesthetic, antibacterial, antiprostaglandin effect, antispasmodic, carminative, diuretic, blood purifier, antileprotic.

#### MEDICINAL USES (ISTEMAL)

##### Gastro-intestinal tract

Aloe relieves obstruction of liver and stomach, act as a tonic for liver and stomach and is beneficial in jaundice. The drug

is widely used for constipation, anal fissure and hemorrhoids [10,24,25]. It is used in worm infestation due to its vermicide action [7,22]. The stem is used in dysentery [10].

##### Central nervous system

It purifies the brain, eyes by excretion of corrupt humors from them. It is beneficial in melancholia and in case of headache it mixed with rose oil and applied on forehead [24,25].

##### Respiratory system

It is used in children suffering from bronchial asthma [10,22,25].

##### Skin

Radiation burns, thermal burns, frost bite, wound healing in pressure sore, seborrhoeic dermatitis and psoriasis [9,10,20,25-27].

##### Fertility and menstruation

In a study aloe compound was found to improve fertility in 85%, the menstrual function also improved in 44.60%. It has been concluded that aloe compound is very useful in case of functional sterility [28]. It is also used in various menstrual disorders such as amenorrhea, oligomenorrhoea [7,8,22].

##### Analgesic activity

Carboxypeptidase was found to have a significant analgesic effect and inhibited the acceleration of vascular permeability with acetic acid inflammation. It has been suggested that carboxypeptidase may be a main anti-inflammatory agent of aloe, though other compounds could contribute to the effect [29].

##### Musculoskeletal system

Aloe is also beneficial in joints pain (*wajaul mafasil*). It mixed with roghan-e-gulab and used as a Tila in *Wajaul Mafasil* [6,9,10,22-24].

##### Dose (*Miqdar-e-khurak*) [7-9,13,22,23]

6 gm, 4½ g-9g, 1 ratti-4 ratti, 3½ masha-4½ masha, 1.75 masha-3½ masha, 7 masha, 10½ masha.

##### Substitute (*badal*) [5,7,8,22]

- Turbud (*Ipomoea turpethum* R.)
- Usara Rewand
- Huzuz double its weight, says Ibn-e-Masawaih
- Rasoot double its weight and Afsanteen, Zafraan

#### CHEMISTRY

The aloe yields two important products:

##### Aloe resin

It is the solid residue obtained by evaporating the latex obtained from the pericyclic cells beneath the skin. The

bitter yellow latex contains the anthraquinone barbaloin (a glucoside of aloe-emodin) and iso-barbaloin in addition to a series of o-glucosides of barbaloin called aloinosides chrysophanic acid and upto 63% resin. Filtering out resins from the exudates and concentrating the remaining anthroglycoside material into crystalline form produces aloin. The concentration of anthroglycosides varies with the types of aloe ranging from 4.5 to 25% of aloin. Aloin is a mixture of water soluble glycosides obtained from aloe [30].

### Dried leaf juice

**Anthranoids:** Anthrones mainly the c-glycosides, aloins A and B (barbaloin, isobarbaloin and stereoisomers of 10-glucosyl-aloe-emodin anthrone), other glycosides include 8-0-methyl-7-hydroxy aloins A and B, aloinosides A and B (aloin-11-0-rhamnosoids). Small quantities of 1, 8-dihydroxyanthraquinoid glycones, including aloe-emodin and chrysophanol are present [11].

**Chromones:** Major constituents are aloesin and aloeresin E. lesser quantities of isoaloesin D, 8-c-glucosyl-7-o-methyl-aloesol and related glycosides which may be esterified at the glucose moiety by either cinnamic, p-coumeric or ferulic acids are also present. Non-glycosylated chromones include 7-hydroxy-2, 5-dimethyl chromone, furoaloesone, 2-acetyl-7-hydroxy-8-5-methyl chromone and 2-acetyl-8-7-hydroxy-5-methyl chromone [11].

Phenyl pyrones- glycosides include aloenin and aloenin B [11].

**Other constituents:** Cinnamic acid and 1-methyl tetralin, salicylates, cholesterol, .tryglycerides, magnesium lactate, carboxypeptide [11,31].

### Toxicology [7,8,23]

- Harmful (*Muzir*): It is harmful to intestine due to its erosive property
- Corrective (*Musleh*)
- Kateera (*Sterculia urenus*)
- Gul-e-surkh (*Rosa damascus* mill)

### Side effects

- **Gastrointestinal:** Spasm, irreversible intestinal mucosa damage, hemorrhagic diarrhea due to internal use of dried juice and pigmentation of intestinal mucosa (pseudomelanosis coli). These side effects usually resolved after withdrawal [11,21,32-34].
- **Genitourinary:** Red-colored urine, nephrotoxicity due to use of dried juice internally [11,34].
- **Skin:** Contact sensitivity, severe burning sensation, itching, rash, pruritis after the application of Aloe vera to skin [33].

- Aloe can reportedly cause muscle weakness, cardiac arrhythmias, peripheral edema, and weight loss [33].
- **Reproductive:** Uterine contraction causes spontaneous abortion, premature labor (internal use of dried juice). Aloe has been associated with congenital malformations, thus its use is contraindicated in pregnant and nursing women [35].

### Contraindications

- Dried aloe juice should not be used internally in case of pregnancy and lactation because anthraquinone is secreted in breast milk [21,31,32,34].
- It is contraindicated in patients with kidney disease, cardiac disease, bowel obstruction, IBS and appendicitis [31,32].
- It should not be used topically on deep wounds [32].
- It should not be used topically by persons who are hypersensitive to this plant or plants in the Liliaceae family such as garlic, onions etc [32].

### INTERACTIONS

#### Herb/drug

Aloe product taken internally may increase the effects of antidysrhythmics (e.g. quinidine), cardiac glycosides, loop diuretics, potassium wasting drugs, thiazide diuretics [32,34].

#### Herb

- The action of jimsonweed is increased in case of chronic use of aloe.
- Licorice may cause hypokalemia when used with aloe or taken internally [32].

### Compounds (Murakkabat) [7,8,23]

The famous Unani Compound formulations of Sibr are as follows:

- Habb-e-tinkar
- Habb-e-shibyar
- Habb-e-mudir
- Habb-e-sibr
- Habb-e-ayarij

### CONCLUSION

In last few decades, there is increased interest in understanding the mechanism of action and development of herbal drugs for wellness of human being. Treatment based on allopathic drugs is effective in the prevention and management of diseases, but it is very expensive and has a lot of adverse effects. Hence, the implication of natural herbal drugs in prevention and management of diseases,

day by day are increasing all over the world, especially in the developing countries, due to their affordability and less toxicity. The *A. barbadensis* Linn (Sibr) has been used by renowned Unani physicians since ancient time to treat various bacterial infection, gastro-intestinal disorders, skin conditions, fighting against allergies, to heal cancer and boosting the immune system. Along with this, Sibr has many other uses which are supported by various researches done by researchers across the world. Traditionally, *A. barbadensis* Linn is used to treat a huge variety of health problems. Consequently, there is a burning call to investigate the biological activity of its phytoconstituents for development of a new more effective, economical, reliable herbal drug with better efficacy and higher safety margin.

#### ACKNOWLEDGEMENT

The authors were thankful to Prof. Misbahuddin Siddiqi, D/o Moalijat, Faculty of Unani medicine, A.M.U., Aligarh-202002 for providing necessary support to carry out this work.

#### CONFLICT OF INTERESTS

There is no conflict of interests to declare.

#### REFERENCES

- Sajjad A, Sajjad SS (2014) Aloe vera: An ancient herb for modern dentistry - A literature review. *J Dent Surg* 1-6.
- Pandey A, Singh S (2016) Aloe Vera: A systemic review of its industrial and ethno-medicinal efficacy. *Int J Pharm Res Allied Sci* 5: 21-33.
- Surjushe A, Vasani R, Saple DG (2008) Aloe vera: A short review. *Indian J Dermatol* 53: 163-166.
- Kumari BN, Sharmila N (2015) Aloe vera its medicinal uses: A review. *Int J Pharmacol Pharm Sci* 2: 16-21.
- CCRUM (1999) *Kitab al Abdal* (English Translation) Department of ISM & H, Ministry of Health & Family Welfare, New Dehli.
- Safiuddin AHS(1986) *Unani Advia Mufrida*. Taraqqi Urdu Bureau, New Dehli.
- Ahmad TN (YNM) *Khwass-ul-advia*. India: Idara Kitab-us-Shifa Kocha Chelan Daryaganj, New Dehli.
- Kabeeruddin Hakeem (YNM) *Makhzanul Mufradat*. Ejaz Publishing House, Daryaganj, Delhi.
- Ibn BZA (1999) *Aljamiul Mufradat Al Advia Wa Al Aghzia*. CCRUM Ministry of Health and Family Welfare, Government of India, New Delhi.
- Gupta AK, Neeraj T (2004) Review on Indian medicinal plants. Medicinal Plants Unit ICMR, New Delhi, India.
- Barnes J, Anderson LA, Phillipson D (YNM). *Herbal medicines-A guide for health care professionals*. Pharmaceutical Press.
- Rabban-al-Tabari A (1996) *Firdaus-ul-Hikmat*. Idara Tarjuman Tib Diamond Publications, Lahore.
- Rushd I (1987) *Kitab ul Kulliyat*. CCRUM Ministry of Health and Family Welfare, Government of India, New Delhi.
- Marderosian AD, Beutter JA (2002) The review of natural products: Fact and comparisons.
- Ross IA (1999) *Medicinal plants of the world-chemical constituents, traditional and modern medicinal uses*. Hunna Press.
- Hooker JD, CBKCSI (1984) *The Flora of British India*. Periodical Expert Book Agency.
- Pekin Jr TJ, Zvaifler NJ (1964) Hemolytic complement in synovial fluid. *J Clin Invest* 43: 1372-1382.
- Sheshadri TR (1976) *Medicinal plants of India*. Indian Council of Medical Research.
- Pareek S, Nagaraj A, Sharma P, Naidu S, Yousuf A (2013) Aloe-vera: A herb with medicinal properties. *Int J Oral Care Res* 1: 47-50.
- Zakariya MB (1991) *Kitabul al Mansoori*. CCRUM Ministry of Health and Family Welfare, Government of India, New Dehli.
- Sharma PC, Velnu MB, Dennis T J (2002) *Database on medicinal plants used in Ayurvedic*.
- Najmul GH (YNM) *Khazainul Advia*. Idara Kitab ul Shifa, Daryaganj, New Delhi.
- Qasmi IA (2001) *Kitab-ul-Mufradat*. International Printing Press, Aligarh, India.
- Hubal BI(2007) *Kitab Al Mukhtarat Fit Tib*. Ministry of Health and Family Welfare, New Delhi.
- Hakeem AH (1991) *Bustan-ul-Mufradat*. Khursheed Book Depot, Lucknow, India.
- Strickland FM, Pelle RP (1994) Prevention of ultraviolet radiation and induced suppression of contact and delayed hypersensitivity by Aloe Barbadensis gel extract. *J Invest Dermatol* 102: 197-204.
- Syed TA, Ahmad SA, Holt AH, Ahmad SH, Afzal M (1996) Management of psoriasis with aloe vera extract in a hydrophilic cream: A placebo-

- controlled, double-blind study. *Trop Med Int Health* 1: 505.
28. Gupta K (1972) Aloes compound (a herbal drug) in functional sterility. *Indian Obst Gynae* 26: 19.
  29. Leung AY, Foster S (1996) *Encyclopedia of common natural ingredients used in food, drugs and cosmetics*. Wiley-Inter Science.
  30. Leung AY (1980) *Encyclopedia of common natural ingredients used in food, drugs and cosmetics*. New York: J Wiley and Sons.
  31. Chun-su-Yuan, Eric J, Brent A (2006) *Textbook of complementary and alternative medicine*. Informa Healthcare.
  32. Roth LS (2001) *Mosby's Handbook of Herbs and Natural Supplements*.
  33. Aronson JK (2009) *Meylers Side effects of herbal medicines*. Elsevier Saunders.
  34. Fetrow CW, Avita JR (2002) *The complete guide to herbal medicines*. Springhouse Corporation.
  35. Briggs C (1995) Herbal medicine: Aloe. *Can Pharm J* 128: 48-50.