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AN UPTODATE PROFILE OF *SENNA ANGUSTIFOLIA:* A REVIEW

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Abstract- The attractive plant species *Senna angustifolia* belongs to the genus Senna. Herbal medicine utilizes it. It naturally grows in upper Egypt, particularly in the Nubian region, and is also commercially grown close to Khartoum. Additionally, it is grown worldwide, most notably in Somalia and India. This current review on *Senna angustifolia* contains the latest data related to isolated chemical constituents, structure, formulation, uses, side effects, dose etc.

Key words: *Senna*, constituents, structure, formulation, uses

INTRODUCTION

Senna is a plant with the scientific name Cassia angustifolia. It is most well-known for its therapeutic uses. It contains tannins, flavonoids, mucilage, and dianthrone glycosides, which are chemicals composed of sugar molecules coupled to other components. Senna possesses numerous other health advantages in addition to being used as a safe and effective laxative. One of the glycosides found in senna, emodin also contains anti-inflammatory and antispasmodic properties, as well as the capacity to suppress or kill viruses. Additionally, these substances have demonstrated efficacy in promoting cellular regeneration, detoxification, and cleansing. The main ingredient in many over-the-counter laxatives is senna. Some health food stores have more pure, unadulterated varieties of senna in addition to pills and liquid extracts (healthymuslim.com).

Senna is frequently utilised due to its many advantages. Many Senna species are utilised medicinally in different parts of the world. South India and Pakistan are two Asian nations where cultivated plants are used to make Indian senna. According to reports, the earliest senna variety was discovered in Egypt and Sudan around the Nile River (Sultana et al., 2012).

Senna, a plant that was once only found in Yemen, Somalia, and Arabia but is now grown all over the world, has certain medicinal applications in Unani and other conventional medical systems. Svarnapatri is made from the dried leaves of Cassia angustifolia Vahl (Fam.Leguminosae), a little shrub that grows year-round and is extensively farmed in Southern India, particularly in the districts of Tinnevelly, Madurai, and Tiruchirapally. Its height ranges from 60 to 75 cm. Adult, thick, blueish-colored leaves that have been manually stripped off have also been introduced in Mysore. These leaves are then collected, dried in the shade for 7–10 days until they take on a yellowish-green hue, graded, and finally stacked into huge bales (API).

It can be grown even in salty and rain-fed environments because it is a resilient species. Senna doesn't require much in the way of pre- and post-harvest care, including irrigation, manuring, insecticides, and protection. This makes the plant the perfect crop for dry places where the main issues are water supply, wasteland development, desertification control, and dune stability (Tripathi 1999).

DESCRIPTION OF PLANT

Domain: Eukaryota
Kingdom: Plantae
Phylum: Spermatophyta
Subphylum: Angiospermae
Class: Dicotyledonae
Order: Fabales
Family: Fabaceae
Subfamily: Caesalpinioideae
Genus: *Senna*
Species: *Senna alexandrina*

Figure1 Senna Leaves, Flower, and Pods

COMMON NAME

Senna, Indian Senna, Tinnervelly Senna, Cassia Senna.

PREFERRED SCIENTIFIC NAME

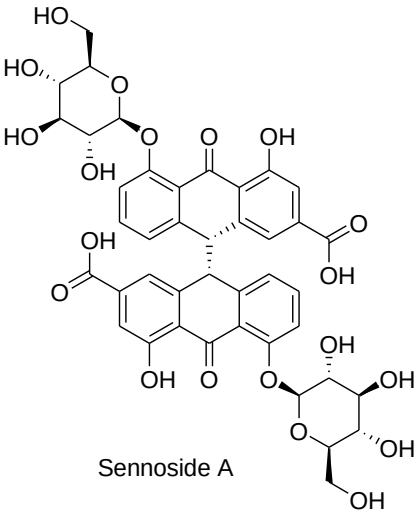
Senna alexandrina Mill.

OTHER SCIENTIFIC NAMES

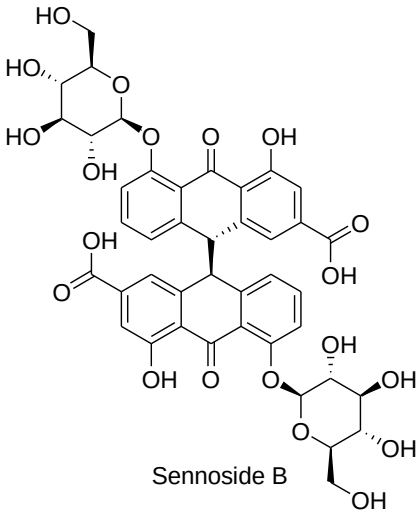
Senna angustifolia (Vahl) Batkal

CHEMICAL COMPOSITION

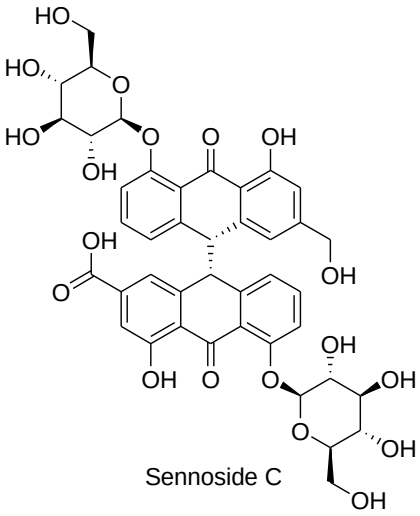
Anthraquinone derivatives, both in their free and mixed forms, are found in senna leaves. 1.5% to 3% of senna is composed of dianthrone glycosides. Sennosides A and B (rhein dianthrones), as well as Sennosides C and D, are two crystalline glucosides that have been discovered in the plant's leaves and pods (rhein aloe-emodin heterodianthrones). Each minor sennoside that has been discovered seems to contribute to the laxative effect. Additionally, the plant has trace levels of free anthroquinones like rhein, aloeemodin, chrysophanol, and their glycosides. Flavonols like kaempferol and isorhamnetin are also present. The glycosides 6-hydroxymusizin and tinnevellin. Chrysophanic acid, 2-hydroxybenzoic acid, saponin, resin, mannitol, sodium potassium tartrate, and minute amounts of essential oil are some of the other Phytochemicals in senna. Sennoside A and B are said to have a strong laxative effect. Additionally, kaempferol, a yellow flavonol colouring agent, is found in senna. Most often in Eastern and Western nations, senna is used to relieve constipation (Balasankar et al., 2014). Due to the presence of sennoside A and sennoside B, two anthraquinone glycosides, senna has a laxative effect. Aloe-emodin, anthrone diglucoside, rhein-8-diglucoside, sennosides C and D, rhein, rhein-8-glucoside, napthalene glycosides like tinnevellin glycoside and 6-hydroxy musizin glycoside, flavonoid (kaempferol), phytosterols, resin, and calcium oxalate are also found in C. angustifolia (Kokate 2003,2008 and Agarwal et al., 2010). The plant's 2% polysaccharides and roughly 10% mucilage, which is composed of galactose, arabinose, rhamnose, and galacturonic acid, are both sources of carbohydrates. Mannose, fructose, glucose, pinitol, and sucrose are additional sugars. The flavonols in senna include kaempferol and isorhamnetin. Additionally, the glycosides tinnevellin and 6-hydroxymusizin are found (Duke, 2002 and Bisset, 1999).



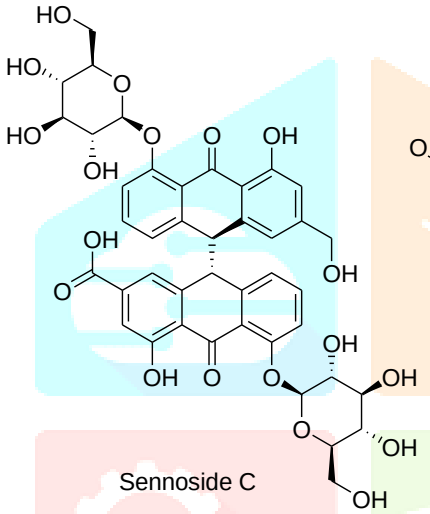
Sennoside A



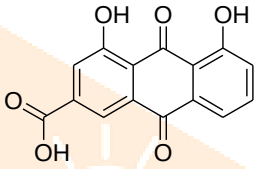
Sennoside B



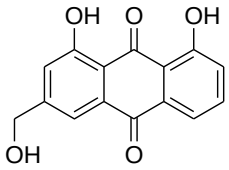
Sennoside C



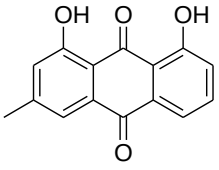
Sennoside C



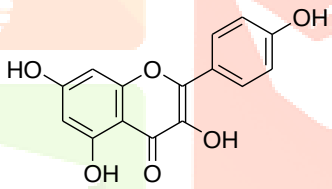
Rhein



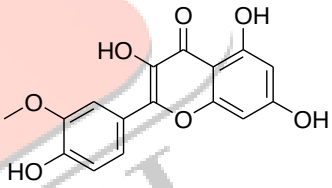
Aloe-emodin



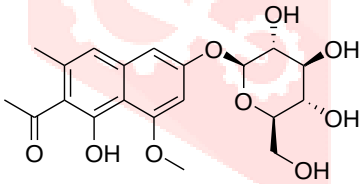
Chrysophanol



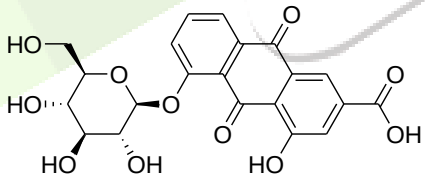
Kaempferol



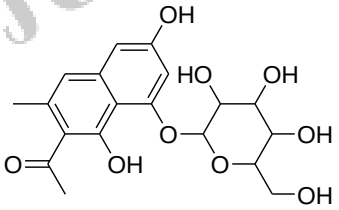
Isorhamnetin



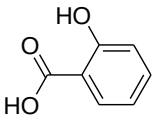
Tinnevellin glucoside



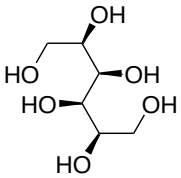
Rhein-8-glucoside



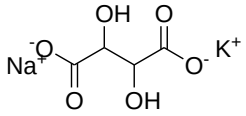
Musizin glucoside, 6-hydroxy



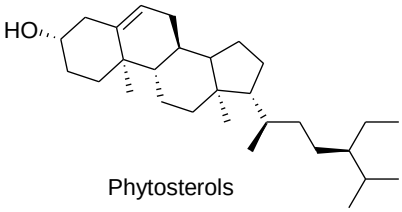
2-hydroxybenzoic acid

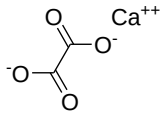


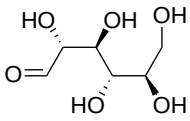
Mannitol

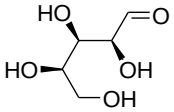


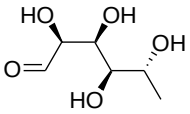
Sodium potassium tartrate

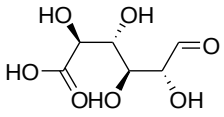

Phytosterols

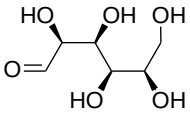

calcium oxalate

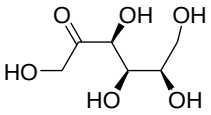

Galactose

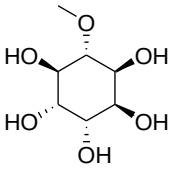

Arabinose

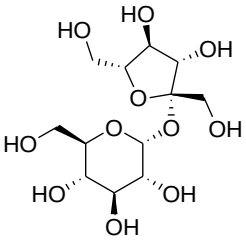

Rhamnose

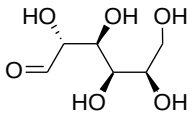

Galacturonic acid


Mannose


Fructose


Pinitol


Sucrose


Glucose

HEALTH BENEFITS OF SENNA

Senna is an herb. The leaves and the fruit of the plant are used to make medicine. Senna is an FDA-approved nonprescription laxative. It is used to treat constipation and also to clear the bowel before diagnostic tests such as colonoscopy. Senna is also used for irritable bowel syndrome, hemorrhoids, and weight loss (rxlist.com).

MOST COMMON DOSES OF SENNA

For children, it takes 8.5 mg daily to induce one bowel movement, adults and children over the age of 12 should take 17.2 mg daily, with a daily maximum of 34.4 mg, adults over 65: 17 mg daily, postpartum pregnancy: 28 mg every day, split into two doses. Senna should not be used for more than two weeks at a time.

SIDE EFFECTS

Senna can have very unpleasant, and occasionally even severe, side effects such diarrhoea, cramping, fluid loss, abdominal pain, electrolyte imbalances, and feeling dizzy and nauseous (**medicalnewstoday.com**).

AYURVEDIC FORMULATIONS CONTAINING SENNA

Ayulax Tablet

Each tablet contains 100mg of *Senna angustifolia* and other ingredients. It is an ayurvedic proprietary medicine used to treat constipation, distention of abdomen (ayurmedinfo.com).

Kultab tablet

Each tablet contain 20mg leaves of *Senna angustifolia* and other ingredients. It is a medicine used to treat piles/hemorrhoids, constipation, and Irritable Bowel Syndrome etc. (myupchar.com)

Pylend tablet

Each tablet contains 100mg of *Senna angustifolia* and other ingredients. It helps in the management of Piles, fissure, Fistula and other anorectal conditions (abhinavayu.com).

Raktansoo syrup

Each 5ml contains 104.16mg of *Senna angustifolia* and other ingredients. An ayurvedic proprietary medicine used as blood purifier (ayurmedinfo.com).

CONCLUSION

Senna is a well-known medicinal plant all over the world. Its leaves play an important role to improve the acute as well as sub-chronic condition related to the digestive system. Leaves and its extract are generally used in numbers of formulations. This current review on *Senna angustifolia* contains the latest data related to isolated chemical constituents, structure, formulation, uses, side effects, dose etc. This current review provides the data related to *Senna angustifolia* at one platform.

REFERENCES

1. Agarwal, V., & Bajpai, M. (2010). Pharmacognostical and biological studies on senna and its products: An overview. International Journal of Pharmacy and Biological Sciences, 6(2), 1–10.
2. Balasankar, D., Vanilarasu, K., Preetha, P. S., Rajeswari, S., Umadevi, M., & Bhowmik, D. (2013). Senna-A medical miracle plant. Journal of Medicinal Plants Studies, 1(3), 41–47.
3. Bisset, N. G. (1994). Herbal drugs and phytopharmaceuticals, Medpharm Scientific Publishers and CRC Press, (pp. 463–466). Inc.
4. Duke, J. A. (2002). Handbook of medicinal herbs (2nd ed). CRC Press.
5. http://www.healthymuslim.com/articles/qedqw-ibnal-qayyim-senna-is-an-excellentmedicine.cfm
6. https://www.abhinavayu.com/product/pylend-tab-bottle-of-60-tab/
7. https://www.ayurmedinfo.com/2012/08/03/ayulax-tablets-benefits-dosage-ingredients-side-effects/
8. https://www.ayurmedinfo.com/2012/08/07/raktansoo-syrup-benefits-dosage-ingredients-side-effects/
9. https://www.medicalnewstoday.com/articles/320659#uses-of-senna-tea
10. https://www.myupchar.com/en/medicine/kultab-p37125966
11. https://www.rxlist.com/senna/supplements.htm
12. Kokate, C. K., Purohit, A. P., & Gokhale, S. B. (2003). Pharmacognosy (25th ed) Nirali Prakashan. pp. 157–160.
13. Sultana, S., Ahmad, M., Zafar, M., Khan, M. A., & Arshad, M. (2012). Authentication of herbal drug Senna (Cassia angustifolia Vahl.) A village pharmacy for Indo-Pak Subcontinent. African Journal of Pharmacy and Pharmacology, 6(30), 2299–2308.
14. The ayurvedic pharmacopoeia of India (API). Part, I(1), 140.
15. Y. C. Tripathi, Cassia angustifolia, a versatile medicinal crop. (1999). International Tree Crops Journal, 10(2), 121–129.