



Therapeutic Efficacy of Homeopathic Drug *Sabal Serrulata* on Benign Prostatic Hyperlasia

Debolina Kundu^{1*}, Abesh Das^{2*}

^{1,2*}Department of Pharmaceutics

ABSTRACT

Sabal serrulate fruit extract is being used in human benign prostatic hyperplasia (BPH)

Thus, it's interesting to see if this phytopharmacon affects the way the human prostate metabolizes androgens. Males naturally become aware of their prostates as they age. Prostate disorders are the subject of this case study. This instance focuses on a single sign associated with prostate cancer. The problem addressed in this case is the prostate-specific antigen (PSA). When a biopsy is not performed, patients with a serum PSA level of less than 4 ng/ml are generally regarded as having no malignancy. Based on the positive outcomes, *Sabal serrulata* extract is advised for the treatment of prostatic hyperplasia causing mild to moderate symptoms.

Keywords: *Sabal serrulata*, BPH, PSA, phytopharmacon, prostate, malignancy.

Introduction

Globally, prostate cancer ranks fifth in terms of cancer-associated mortality among men and is the second most common type of cancer. Serum PSA screening for prostate cancer seeks to reduce overall disease-specific mortality and identify the disease at an early, intervenable stage amenable to curative treatment. Prostate cancer diagnoses rise as a result of PSA screening. Even though it is clinically advised, PSA screening is still debatable.

Moreover, there is currently no proof that screening for prostate cancer saves lives. According to a different study, screening for prostate cancer does not lower overall mortality over a ten-year period, but it may have a small absolute benefit in disease-specific mortality. The study goes on to say that these advantages must be balanced against the possible short- and long-term drawbacks of PSA screening, such as the possibility of overdiagnosis and treatment, complications from biopsies and the ensuing medical intervention, and other issues. Despite the fact that BPH is treated with the human prostatic concept. Beyond medication-induced hyperplasia (BPH), there is no question that androgens play a role in some way. It has been demonstrated that the active androgen that mediates the intracellular action of androgens in the prostate is dihydrotestosterone (DHT). 5 α -Reductase is most likely the predominant enzyme throughout the entire hormone metabolism process because it catalyzes the irreversible conversion of testosterone to DHT. Its potential is significantly greater than that of other substances due to the well-established discovery that the prostate has a significantly higher DHT content than either skeletal muscle or corresponding plasma.

As a result, different phytopharmaceuticals are used to treat BPH. The inhibition of 5 α -reductase is a promising and proven inhibitory effect on 5 α -reductase. The latter medications, like fruit extracts from *Sabal semilata*, are causing a subjective improvement in the symptoms of the patients. Based on the known antiphlogistic and antiedematous properties of *Sabal serrulata* extracts, it has been assumed that this effect occurs. Herein, it has been investigated to what extent the *Sabal serrulata* extract IDS 89, i.e., the active principle of the commercially available phytopharmacon Strogen@ S/uno, is capable of inhibiting 5 α -reductase in vitro and to define in more detail the compounds responsible for such inhibition.

Figure 1: Picture of the plant *Sabal serrulata*.

Morphological Character

Latin name	<i>Sabal serrulatae fructus</i>
English common name	Saw Palmetto Fruit
Botanical name	<i>Serenoa repens</i> (W.Bartram) Small (syn. <i>Sabal serrulata</i> (Michx.) Schult.f.)
General description	An indigenous palm tree of the Southeast United States is the saw palmetto. Its height varies from 4 to 10 feet based on the area. The dried, ripe berry is the medicinal portion. Another name for it is <i>Sabal fructus</i> . Saw palmetto berries and seeds are both utilized medicinally.
Therapeutic area	Urinary tract and genital disorders

Table 1: Morphological character of *Sabal serrulate*.Figure 2: *Sabal serrulata* plant and fruits.

Geographical Distribution

The species is indigenous to the tropical and subtropical regions of the Americas, ranging from the South Atlantic and Gulf Coast states of the Southeast to Colombia and Venezuela via the Caribbean, Mexico, and Central America.



Figure 3: Geographical distribution of *Sabal serrulata*.

Cultivation of *Sabal serrulata*

The fruit, a sizable drupe with a reddish-black color, is a staple food for both humans and wildlife. Certain Lepidoptera species, like *Batrachedra decoctor*, whose larvae only consume the plant, use it as a food source. Rarely do stems or trunks grow upright, although certain populations do. This hardy plant grows very slowly and has a long lifespan; some specimens, particularly in Florida, maybe as old as 500–700 years. The leaves have a bare petiole. The species' common name comes from the petiole's sharp, tiny teeth or spines. When working near a saw palmetto, gloves should be worn because the teeth or spines can easily break the skin. Inland, the leaves are light green, while along the coast, they are silvery-white. The length of the leaves is 1-2 m, and the leaflets are 50-100 cm. They resemble the leaves of the *Sabal* palmetto genus. The yellowish-white, roughly 5-mm-diameter flowers are produced in dense, compound panicles that can reach lengths of 60 cm.

Chemical Composition

The active components of saw palmetto are flavonoids, plant sterols, and fatty acids. High molecular weight polysaccharides, or sugars, are also present in the berries, and these may boost immunity or lessen inflammation.

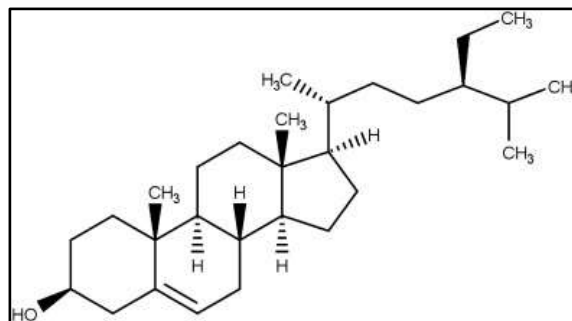


Figure 4: Chemical structure of *Sabal serrulata* plant

Mechanical of Action

A major contributing factor to BPH is hormonal imbalance; in fact, normal levels of androgens and estrogens work together to regulate the prostate's growth and development, which in turn controls the ratio of cell division to apoptosis. Actually, dihydrotestosterone (DHT), a hormone that binds to androgen receptors (AR), carefully controls the growth and proliferation of the prostate volume. These paracrine pathways aid in the regulation of the proliferation and apoptosis of prostate epithelial cells. Androgens are also associated with the development of BPH and prostate cancer. To stop cell death in the ventral prostate, testosterone controls the amounts of procaspase and caspase-3 and -6 mRNA and active protein in a model of castrated rats. Because aberrant growth is associated with the activation of proliferative processes and vice versa with the inhibition of apoptotic pathways, which is induced by androgen stimulation, DHT is essential in the development of BPH.

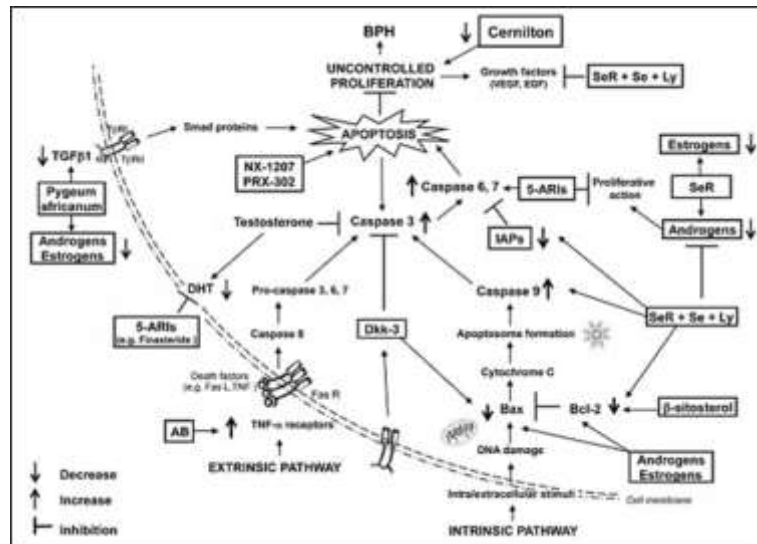


Figure 5: Schematic representation of the endocrine-linked apoptotic mechanisms involved in benign prostatic hyperplasia (BPH) and of its medical treatments

Key Benefits

This medication is mainly used to treat affection of the genito-urinary tract. It also aids in weight gain. It has a calming effect on mucous membranes and helps with problems associated with frequent coughing and colds.

- Lessens headaches and stress related to work and studying
- Treats conditions characterized by acidity and belching along with stomach pain.
- Helps with disorders related to the ovaries and pain during menses that causes weakness; • Reduces the urge to urinate constantly and the feeling of fullness in the bladder; • Reduces prostate enlargement that causes pain; • Alleviates breast pain and encourages the growth of undeveloped breast tissue.

SBL

KEY BENEFITS

- May help restrict the urge to constantly urinate and reduces the feeling of fullness in bladder.
- Helps reduce prostate enlargement that leads to pain.
- Helps combat disorders related to ovaries and pain during menses leading to weakness.
- Helps relieve pain in the breasts and promotes the growth of undeveloped breast.

Dosage: To be consumed, as directed by the Physician/Medical Practitioner*

Figure 6: Key benefits of *Sabal serrulata*.

Side Effects

For most people, saw palmetto is LIKELY SAFE. Usually, side effects are not too bad. Dizziness, headaches, nausea, vomiting, constipation, and diarrhea have been reported by a few people. There have been reports of impotence linked to saw palmetto. But these adverse effects don't seem to happen with saw palmetto any more frequently than they do with a sugar pill. There is some worry that saw palmetto may cause issues with the pancreas or liver in certain individuals. Nevertheless, insufficient data is available to determine whether saw palmetto genuinely caused these adverse effects. When properly injected into the rectum, saw palmetto has the potential to be safe for up to 30 days. It is unknown, though, if using it for extended periods of time is safe.

Dosing

In scientific studies, the following dosages have been investigated:

- For patients with benign prostatic hyperplasia (BPH), take 160 mg twice day or 320 mg all at once.
- To treat bald spots, take 200 mg twice a day along with 50 mg of beta-sitosterol twice a day.

Precautions

Herbal medicine is a traditional method of promoting health and curing illness. Herbs, however, can have adverse effects and interact with drugs, supplements, and other herbs. For these reasons, you ought to use caution when taking herbs and seek medical advice before doing so.

In general, *sabal serrulata* is considered safe when taken as prescribed. Although headache, nausea, diarrhea, and dizziness have been reported, side effects are extremely uncommon. Saw palmetto was blamed for severe bleeding during surgery in at least one instance. People who took saw palmetto have reported two cases of liver damage and one case of pancreas damage. However, not enough data is available to determine whether saw palmetto caused these side effects. Saw palmetto self-treatment for BPH is NOT advised. To rule out prostate cancer, get a proper diagnosis from your physician.

Saw palmetto shouldn't be taken by women who are pregnant, nursing, have hormone-related cancers in the past or are at risk of developing one because it may have effects that are similar to those of some hormones.

Conclusion

Homoeopathy works well for glandular disorders, which can range from benign to malignant. One such gland is the prostate, where homeopathy has previously demonstrated efficacy in treating benign hyperplasia of the prostate (BHP). In addressing prostate cancer, the current study adds yet another feather to the homeopathic cap. But it should also be noted that certain medications are needed in addition to constitutional medications to treat the cases. In this instance, milk and chappatis were stopped for dinner in favor of adding more green leafy vegetables to the diet, which helped the body fight conditions like carcinoma. Nutrition and diet should be addressed concurrently in each case.

Reference

1. Coffey DS, Berry SJ, Ewing LL: *An overview of current concepts in the study of benign prostatic hyperplasia* In Rodgers CH, Coffey DS, Cunha G, Grayhack JT, Hinman F, Horton R (eds): "Benign Prostatic Hyperplasia," Vol II. Bethesda: NIH publication No 87-2881,
2. Krieg M Biochemical endocrinology of human prostatic tumors. *Prog Cancer Res Ther* 31:425-440, 1984.
3. Imperato-McGinley J, Guerrero L, Gautier T, Peterson RE: Steroid 5 α -reductase deficiency in man: An inherited form of male pseudohermaphroditism. *Science*
4. Krieg M, Tunn S: Androgens and human benign prostatic hyperplasia (BPH). In Nieschlag E, Behre HM (eds): "Testosterone. Action, Deficiency, Substitution." New York: Springer Verlag, 1990, pp 219-244.
5. Krieg M, Bartsch W, Herzer S, Becker H, Voigt KD: Quantification of androgen binding, androgen tissue levels, and sex hormone-binding globulin in prostate, muscle and plasma of patients with benign prostatic hyperplasia. *Acta Endocrinol (Copenh)* 86:200-215, 1977.
6. Krieg M, Nass R, Tunn S: Effect of aging on endogenous level of 5 α -dihydrotestosterone, testosterone, estradiol, and estrone in epithelium and stroma of normal and hyperplastic human prostate. *J Clin Endocrinol Metab* 77:375-381, 1993.
7. Weisser H, Tunn S, Debus M, Krieg M: 5 α -reductase inhibition by finasteride (Proscar®) in epithelium and stroma of human benign prostatic hyperplasia. *Steroids*
8. Champault G, Pate1 JC, Bonnard AM: A double-blind trial of an extract of the plant *Serenoa repens* in benign prostatic hyperplasia. *Br J Clin Pharmacol* 18:461-462, 1984.
9. Wagner H, Flachsbarth H, Vogel G: A new antiphlogistic principle from *Sabal serrulata*, 11. *Manta Med* 41:

10. Breu W, Hagenlocher M, Redl K, Tittel G, Stadler F, Wagner H: Antiphlogistische Wirkung eines mit hyperkritischem Kohlendioxid gewonnenen Sabalfrucht-Extraktes. In-vitro-Hemmung des Cyclooxygenase- und 5-Lipoxygenase-Metabolismus. *Drug Res* 42:547-551, 1992.
11. Cowan RA, Cowan SK, Grant JK, Elder HY: Biochemical investigations of separated epithelium and stroma from benign hyperplastic prostatic tissue. *J Endocrinol* 74:111-120, 1977.
12. Krieg M, Klotzl G, Kaufmann J, Voigt KD: Stroma of human benign prostatic hyperplasia: Preferential tissue for androgen metabolism and oestrogen binding. *Acta Endocrinol (Copenh)* 96:422-432, 1981.
13. Tunn S, Haumann R, Hey J, Fluchter StH, Krieg M: Effect of aging on kinetic parameters of 3 α (@)-hydroxysteroid oxidoreductases in epithelium and stroma of human normal and hyperplastic prostate. *J Clin EndocMol Metab* 71:732-739, 1990.
14. Tunn S, Hochstrate H, Grunwald I, Fluchter StH, Krieg M: Effect of aging on kinetic parameters of 5 α -reductase in epithelium and stroma of normal and hyperplastic human prostate. *J Clin Endocrinol Metab* 67:979-985, 1988.
15. Lineweaver H, Burk D: The determination of enzyme dissociation constants. *J Am Chem Soc* 56:658-666, 1934.