PANAX GINGSENG

This product has been used for numerous indications in traditional Chinese medicine. It is frequently used for decreased libido and erectile dysfunction in the urologic arena. It reportedly has androgenic effects and stimulation, although improvements in penile endothelial L-arginine–nitric oxide activity have been suggested.

Clinical trials are not conclusive of its effectiveness.

REFERENCES

Tamler R, Mechanick JI. Dietary supplements and nutraceuticals in the management of andrologic disorders. *Endocrinol Metab Clin North Am* 2007;36:533–552.

Xiang YZ, et al. A comparison of the ancient use of ginseng in traditional Chinese medicine with modern pharmacological experiments and clinical trials. *Phytother Res* 2008;22:851–858.

PERMIXON (*Serenoa repens*)

This is the branded saw palmetto extract produced in France. It is the lipido-sterolic extract of the dried fruit (berry) of the dwarf palm. It is the most widely studied of all phytotherapies for the treatment of BPH/LUTS. From in vitro studies, it has been postulated to have many mechanisms of action including antiprostaglandin, antiandrogenic, and antiestrogenic effects. It has almost no effect upon prostate size and no effect upon PSA levels. There are no known significant health risks or adverse effects.

REFERENCE

Boyle P, et al. Updated meta-analysis of clinical trials of *Serenoa repens* extract in the treatment of symptomatic benign prostatic hyperplasia. *BJU Int* 2004;93:751–756.

PUMPKIN SEED (*Cucurbita pepo*)

Fresh and dried seeds are taken whole or ground for the treatment of BPH or overactive bladder. Active compounds are thought to be phytosterols. There are no recent clinical trials and therefore no evidence establishing its efficacy. There are no known side effects.

REFERENCE

Carbin BE, et al. Treatment of benign prostatic hyperplasia with phytosterols. *Br J Urol* 1990;66: 639–641.

RYE POLLEN (*Secale cereale*)

A pollen extract obtained by microbial digestion and extraction by water and organic solvents. Cernilton is the branded product. Active ingredients are thought to be β-sitosterols. It is used for the treatment of BPH and prostatitis and chronic pelvic pain syndrome (CPPS). In vitro inhibition of epithelial and stromal cell growth has been demonstrated. No long-term conclusive clinical studies exist. Side effects are reportedly minimal.

REFERENCES

Habib FK, et al. The identification of a prostate inhibitory substance in a pollen extract. *Prostate* 1995;26:133–139.

MacDonald R, et al. A systematic review of Cernilton for treatment of benign prostatic hyperplasia. *BJU Int* 2000;85:836–841.

SAW PALMETTO BERRY (*Serenoa repens, Sabal serrulata*)

There are many different extraction processes and therefore many different brands of saw palmetto. The composition of these brands are variable. A recent National Institutes of Health (NIH)-sponsored double-blind, placebo-controlled study using the Indena brand showed no statistical difference between placebo and saw palmetto berry for treatment of BPH/LUTS. Permixon brand is the most widely studied product (see "Permixon" above). Minimal side effects are associated with saw palmetto. Saw palmetto berry extract (SPBE) compounds are also sold for "prostate health." SPBE includes ingredients such as beta-sitosterol and stigmasterol with no reliable clinical data to support their use.

REFERENCES

Bent S, et al. Saw palmetto for benign prostatic hyperplasia. *N Engl J Med* 2006;354:557–566.

Habib FK, Wyllie MG. Not all brands are created equal: A comparison of selected components of different brands of *Serenoa repens* extract. *Prostate Ca Prostatic Dis* 2004;7:195–200.

SELENIUM

A trace mineral that may prevent the development of prostate cancer. Epidemiologic studies suggest a chemo-preventative effect. One study of patients with high-grade prostatic intraepithelial neoplasia suggested that selenium reduced the incidence of prostate cancer on subsequent biopsy. The National Cancer Institute-sponsored SELECT trial was a 10-yr prospective trial that begin in 2001 of over 35,000 men studying the prostate cancer chemopreventive effects of selenium and vitamin E alone and in combination. The data monitoring safety board (DMSB) halted the trial in the fall of 2008. Their concerns were that the supplements did not appear to offer any benefit. In particular, there was a nonstatistically significant trend to increasing prostate cancer with vitamin E alone and increased diabetes risk in men on selenium alone.

REFERENCES

Joniav S, et al. Effect of nutritional challenge in patients with isolated high-grade prostatic intra-epithelial neoplasia. *Urology* 2007;69: 1102–1106.

Lippman SM, Klein EA, Goodman PJ, et al. Effect of selenium and vitamin E on risk of prostate cancer and other cancers: the Selenium and Vitamin E Cancer Prevention Trial (SELECT). *JAMA* 2009; 301(1):3951.

SOUTH AFRICAN STAR GRASS (*Hypoxis roperi*)

This extract is taken for BPH/LUTS. The active compound is thought to be β-sitosterols, which are thought to induce apoptosis by transforming growth factor (TGF)-β_1; this is unproven clinically. Initial studies showed dramatic improvements in symptom scores and flow rates; however, confirmatory studies are still needed. Adverse effects are believed to be minimal.

REFERENCES

Klippel KF, et al. A multi-center, placebo-controlled, double-blind clinical trial of β-sitosterol (phytosterol) for the treatment of benign prostatic hyperplasia. *Br J Urol* 1997;80:427–432.

Wilt TJ, et al. Beta-sitosterol for the treatment of benign prostatic hyperplasia: A systematic review. *BJU Int* 1999;83:976–983.

STINGING NETTLE (*Urtica dioca, Urticae radix*)

Bazoton is a branded form of this extract; see above. The clinical evidence of the effectiveness of nettle root is based primarily on open studies, and the significance of this must be confirmed. Minimal toxicity is associated with stinging nettle use.

REFERENCE

Chrubasik JE, et al. A comprehensive review on the stinging nettle effect and efficacy profiles. Part II: *Urticae radix*. *Phytomedicine* 2007;14:568–579.

YOHIMBINE (*Pausinystalia yohimbe*) YOCON, YOHIMEX

An extract of the bark of the yohim tree has been used for erectile dysfunction and decreased libido. The mechanism of action is as an α-adrenergic antagonist. Conflicting studies show both positive and no effect when compared to placebo. It appears to have greatest utility for men with psychogenic impotence. Despite the advent of phosphodiesterase 5 (PDE5) inhibitors, there is still widespread utilization of this over-the-counter product. Side effects include anxiety, tremors, dizziness, hypertension, and tachycardia. Do not use with antidepressants (eg, MAOIs or similar agents)

REFERENCES

Dinsmore WW. Available and future treatments for erectile dysfunction. *Clin Cornerstone* 2005;7: 37–45.

Reid K, et al. Double-blind trial of yohimbine in the treatment of psychogenic impotence. *Lancet* 1987;2:421–423.