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ERYNGIUM YUCCIFOLIUM (BUTTON ERYNGO): CASE STUDY, RESEARCH, AND CLINICAL USE

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CASE STUDY

A 52-year old white male went to his primary care physician complaining of pain, difficulty urinating, and a recent history of severe fatigue. He was diagnosed with prostatitis and was given a two-week course of antibiotics. His symptoms worsened, and he suffered a complete urinary obstruction. He was catheterized at the emergency room, pending a cystoscopy that revealed bladder cancer. He remained catheterized for an additional 10 days after the transurethral resection. Approximately a week after the catheter was removed, he began suffering from increasing pain and experienced difficulty urinating. Warm baths, non-inflammatory non-steroidal analgesics, and a phenazopyridine (Pyridium) provided no relief (Note 1). Due to substantially increased pain and difficulty urinating after a 5-day course of phenazopyridine, his physician scheduled him for a re-catheterization.

At that point the patient quit taking the phenazopyridine, and sought botanical alternatives. He was prescribed a tincture of *Eryngium yuccifolium*, made from the fresh above-ground parts of the plant at a 1:2 weight:volume ratio in 100% ethanol. The dose was 30 gtt in warm water 4 times a day. After taking the first dose, he reported that he painlessly passed a number of blood clots per urethra. After the second dose, his urine was clear and he experienced no further difficulty urinating. **[AU: Can we say “30 drops” instead of “30 gtt”? Also, can we say “through the urethra” rather than “per urethra”?]**

The patient underwent bladder removal and reconstruction of an internal neobladder. He was diagnosed with stage III bladder cancer, and opted to undergo three rounds of chemotherapy. He also made a number of recommended lifestyle changes: He quit drinking alcohol (he was previously a borderline alcoholic), reduced his intake of red meat, and increased his intake of fruits and vegetables. He prepared broths containing onions, garlic,

tomatoes, *Astragalus membranaceus*, *Grifola frondosa* (maitake), *Ganoderma lucidum* (shiitake), and *Cordyceps sinensis* (cordyceps) mushrooms that he used as a base for sauces and stews. He also drank a daily “shake,” in which he combined yogurt, flaxseed oil, soy protein powder, vitamin C, chlorella, and fruit.

During the most severe stages of chemotherapy, he was always able to tolerate the previously prepared broth. He also took supplemental vitamin E and a daily multi-vitamin, and used the Eclectic formula known as “neutralizing cordial” to reduce nausea and indigestion, but did not elect to use other botanical remedies. However, he continued to take the *Eryngium* tincture as needed from time to time, and reported that it consistently relieved urethral symptoms.

His cancer progressed swiftly. Five months after initial diagnosis, he was hospitalized with metastasis to the intestines and penis, and died shortly thereafter. The *Eryngium* tincture obviously had no positive effect on the cancer. However, it proved to be a remarkable, consistent, palliative remedy in his case.

ERYNGIUM YUCCIFOLIUM

Eryngium yuccifolium (button eryngo, rattlesnake master) is native to the Southwestern United States and northern Mexico, and is in the Apiaceae family. It has long (up to 1 m), stiff, narrow (2-8 cm wide) leaves with small prickles running along the leaf edge. The similarity to *Yucca* spp. leaves probably gave rise to the specific name, *yuccifolium*. Its greenish-white flowers are borne in spherical, thistle-like heads surrounded by larger, pointed bracts. Flower stalks can reach 2.5 m in height. **[AU: What is “*Yucca* spp.”? Can we spell it out?]**

The plant was known as a remedy for rattlesnake bites, which gave rise to one of its common names (rattlesnake master). Native Americans used its root for neuralgia, kidney and bladder problems, as an antidote for poisons, and

as an emetic. Many tribes also used the plant for digestive disturbances and diarrhea.¹ The related plant, *E. aquaticum* was used similarly.

The Eclectic physicians, a sect of medical doctors who relied on natural remedies and principles of healing from the 1850s to 1930s, used *Eryngium yuccifolium* as a remedy for a variety of urinary problems: burning pain with urethral irritability, frequent scanty and scalding urination, scanty urine with frequent, ineffectual attempts to urinate, profuse mucous discharges, and deep-seated pain in the bladder extending into the loins.² These physicians also considered it to be of “considerable value” in laryngitis and bronchitis with profuse mucus secretion. Finally, they sometimes used it [the tincture?] for digestive disorders with persistent gastric irritation with mucus diarrhea. The Eclectics noted that *Eryngium* in large doses was an emetic. [AU: Is there a way to reword the 2nd to last sentence for clarity? For example, could we insert the word “and” between “irritation” and “with”?]

There are approximately 250 species of *Eryngium*, and a long overdue study of the genus is underway.³ However, there is currently no published scientific data on *E. yuccifolium*, and its constituents are unknown. There are a few published studies on other *Eryngium* species, but until further constituent data is available, it cannot be assumed that the studies necessarily apply to *E. yuccifolium*. A brief, partial summary of the studies on other species of *Eryngium* follows.

E. foetidum (culantro, long coriander, Mexican coriander) is used as a spice in Asian and Caribbean cooking.⁴ It is used medicinally as a vulnerary, a hypotensive, a digestive, an ear ache remedy, and a topical remedy for arthritis.⁵ *E. foetidum* is rich in steroidal compounds (eg, alpha-cholesterol, brassicasterol, campesterol, stigmasterol, beta-sitosterol, avenasterol), and showed a moderate anti-inflammatory effect in mice. *E. foetidum* may also reveal some anti-convulsant activity.⁶ Animal studies show that *E. maritimum* (eryngo) also displays anti-inflammatory activity.⁷ *E. creticum* is used as an ethno-botanical treatment for diabetes in Israel.⁸ This species apparently has some ability to antagonize scorpion venom in vitro.⁹ Finally, *E. bromeliifolium*, *E. amethystinum*, *E. maritimum*, *E. planum*, and *E. giganteum* contain saponins that may have an antimycotic effect.¹⁰⁻¹⁶ [AU: In the first sentence, did you mean “cilantro” rather than “culantro”?]

DISCUSSION

Eryngium yuccifolium is a little known anti-inflammatory, spasmolytic herb with a certain degree of specificity for the urinary tract. There are no clinical studies on its use, no published animal studies evaluating its effectiveness or safety, and virtually no published information on its current use

in practice. We conclude, based on our clinical experience as well as conversations with a handful of practitioners experienced in the use of the herb and historical data from the Eclectic physicians, that *Eryngium* nonetheless may be helpful for many patients with conditions such as urinary tract infections, including prostatitis, epididymitis, seminal vesiculitis with pain, smooth muscle spasms in the urinary tract, and acute or chronic inflammatory conditions in the urinary tract. It may also offer some benefits for inflammatory and spastic conditions elsewhere in the body. We have not observed, and other clinicians have not reported, any adverse effects from the doses recommended here.

While the safety of *Eryngium* has not been established, it appears quite safe based on clinical practice at the usual therapeutic tincture dose of 1-3 ml, 3-5 times per day. Nausea or vomiting may occur at higher doses. Due to a lack of information, *Eryngium yuccifolium* should be avoided during pregnancy and lactation. It is unknown if the herb is safe with long-term administration. More research should be undertaken on this intriguing, useful plant—both to verify its safety and to investigate its efficacy.

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NOTES

1. Pyridium (phenazopyridine hydrochloride) is an analgesic drug that is excreted in the urine and is used to relieve pain, burning, and urgency associated with irritation of the lower urinary tract from, among other things, catheterization. Long-term administration is associated with neoplasia in laboratory animals, although no correlation between administration and human neoplasia has been established, since "adequate epidemiologic studies have not been conducted." (American Medical Association's Drug Evaluations Annual 1992. Chicago, IL, AMA 1992.) [AU: In the last sentence, I added the word "since" right before the quote for clarity. Please let me know if the resultant meaning is incorrect.]

[AU: Please provide a short bio for each author. An example is as follows:

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