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Gotu Kola

One may not completely understand how folk remedies work, but they are still passed down from generation to generation due to their effectiveness. One example is the medical herb called *Centella asiatica* commonly known as gotu kola, Indian pennywort, mandukaparni, white rot, ji xue cao and various other names depending on the region it is employed. It is a “clonal, perennial herbaceous creeper belonging to the family *Umbelliferae (Apiaceae)*” (Gohil, Patel & Gajjar, 2010). This plant has small, fan-shaped leaves that are tasteless, odorless and flourishes in water. This natural remedy existed for thousands of years in India, China and Indonesia. Only recently, has interest reached the Western hemisphere.

Gotu kola can be found in various forms such as ointment, cream, gel, extract, tea, powder and tablets. It's antioxidant and anti-inflammatory effects is commonly used for wound healing, chronic venous insufficiency and cognitive function. Studies have concluded that gotu kola is effective for second degree burns because it inhibits the group of enzymes that break down collagen. In other words, it increases the rate of collagen synthesis which has a direct relationship with healing rate. Additionally, in a double blind study conducted in 2001, the experimental group took 60mg of saponins, the active ingredient in gotu kola, twice daily for eight weeks displayed a significant impact for “for microangiopathy associated with venous hypertension as assessed by basal resting flow, veno arteriolar response, and the pressure of

carbon dioxide and oxygen” (Patel, 2019). In turn, a possible explanation for improved blood circulation and decrease edema. Another common labeled use is to improve cognitive functions. Recent studies discovered how gotu kola increases neuronal growth, the extent the dendrites expand and not the amount of neurons, by stimulating proteins known as MAPKs. These proteins prompt the growth factor known as Brain-derived Neurotrophic Factor (BDNF). On the other hand, off-label use that are not verified by research include atherosclerosis, venous thromboembolism, diabetic microangiopathy, keloids, scarring, schistosomiasis, stretch marks, anxiety, common cold, common flu, diarrhea, fatigue, hepatitis, indigestion, jaundice, tonsillitis and urinary tract infection. Thus, more research regarding this broad spectrum medical herb needs to be conducted.

Although oral manifestations have not been indicated, there are many adverse effects comprised of nausea, stomach pain, contact dermatitis (itchiness and redness) and drowsiness. Individuals taking medication for anxiety, depression, seizures or liver problems should consult their health care provider before use. Patients should take caution when taking acetaminophen, birth control pills, NSAIDs, phenytoin and etc. Gotu kola may also cause increased drowsiness. Therefore, the consumption of this medical herb should cease two weeks prior to surgery and for individuals taking central nervous system depressants. These sedatives include clonazepam (Klonopin), lorazepam (Ativan), phenobarbital (Donnatal), zolpidem (Ambien), and others. Additionally, “Gotu kola extract has been shown to inhibit cytochrome P450 (CYP-450) 3A4, 2C19 and 2B6, but the clinical significance is unknown” (Haveles, 2018). There is not enough

information supporting the use of gotu kola during pregnancy and lactation and therefore, it would be in the patient's best interest to abstain from it.

The importance of consulting a doctor before use cannot be stressed enough as it is an over the counter herbal remedy readily available for purchase. It is quite attractive for customers because it is an organic and all natural product that comes in various forms. Dried gotu kola leaves can be used for tea, drops of extracts can be combined with water or juice, capsule can be swallowed and ointment that can directly apply to the skin. Compared to drugs that improve alertness, the main component for cognitive functions, such as donepezil, rivastigmine tartrate, galantamine HBr and memantine, gotu kola may not have the same drastic effects. For instance, “Future enhancement drugs... may be accompanied by deleterious side effects, including toxicity and physical or psychological dependence. These risks may be exacerbated by long-term use, which may be necessary to achieve or maintain the desired enhancement effect” (Mehlman, 2004). On the other hand, hepatotoxicity has been reported only three times when gotu kola is consumed for the duration of 20-60 days.

Although there are no known dental implications that would alter treatment planning, as health educators we do have a responsibility to have general knowledge concerning natural products. Patients value and would acquire our opinions to assess these products. Of course, it is impossible to know them all, but it would be beneficial to understand the patient population. We should tailor our focus on the products they are more likely to employ. With preparation, we would be comfortable to educate our patients regarding the associated risks of natural and synthetic products. With the knowledge of these drugs, we can implement a personalized

treatment plan effectively. As always, we have abundant reliable resources on the internet and the drug handbook to thoroughly assess the patient's medical history. One major role of a dental hygienist is an educator; it is not limited to the oral health but also our patients overall well-being.

Citations

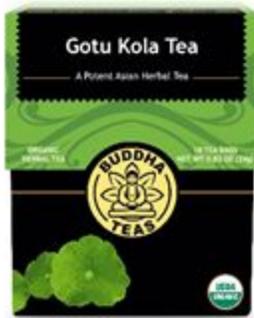
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