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Herban Legends and Clinical Pearls

Lomatium is not a broad spectrum 'antiviral"

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Lomatium dissectum is a plant in the parsley family that grows in and around the Mountain West. It is a warming expectorant, diaphoretic, with an affinity for the respiratory tract and when its constituents are excreted through the lungs or urinary tract, may disinfect those areas. Based on these actions, it might be considered the perfect herb for febrile respiratory infection. We know of the medicinal use of *Lomatium* today because of its use in the Lake Tahoe, CA area during the great influenza epidemic of 1918. A doctor Krebs in Lake Tahoe noted that among the local Washoe Indians and the white residents who used *Lomatium* according to their methods, no one died in the epidemic. But mortality was high in those who used conventional medicine, as it was throughout the rest of the country, and also occurred in other Native American tribes in the region who did not use *Lomatium* according to Krebs.The doctor used the herb for his own patients, and reports that he saved lives in critically ill patients with pneumonia. He wrote a monograph, describing his experiences and how the Washoe prepared the *Lomatium* and used it as medicine. You can find his monograph reproduced at www.lomatium.com. According to the author, the Washoe boiled a big batch of the roots in a pot for hours, and scooped off and discarded the material that rose to the top. They then used large doses of this decoction for respiratory infections, about 6 ounces of the root a day in tea in febrile influenza. They used the same method for all manner of respiratory infections, viral or bacterial, including pneumonia and tuberculosis. This preparation appears to be a premier medicine for *serious respiratory tract infection with fever.*

Based on the native uses, naturopathic herbalists adopted the herb, and a thin lineage of them across the 20th century used it in tincture form for respiratory infection and pneumonia. Disregarding the traditional form, the herb is now given in small doses instead of large, and in alcohol instead of water. And now something new has appeared: some of the patients develop rashes. This is a whole body rash, everywhere from the bottoms of the feet to the top of the scalp. Non-painful, non-itchy. The patient then goes to a conventional doctor, sometimes an emergency room, where the rash cannot be diagnosed. The doctors assume it is inflammatory and the patient receives steroids, which do not work, and the puzzled docs admit the patient for observation. Here a Native tradition has partially appropriated but without the context or the method of administration. The naturopaths, used hydro-alcoholic extract without the removal of the oils and resins. They were using the same plant but it was a different medicine, with different effects. The Washoe undoubtedly knew about the *Lomatium* rash, and knew that if they scooped off the rising matter in a stew, and made a water extract, they could take it in even large doses. Krebs made no mention of the rash despite using the herb in those large doses for his patients. Contemporary reportsof the rash have been appearing periodically in North American herbalism since Lomatium became popularized in the late 1980s. One herbal master of the naturopathic tradition in the 1980s, said to keep the doses below 10 drops three times a day, but if the rash appears, to lower the dose further. He considered this form of *Lomatium* "indispensable in the treatment of pneumonia," which is typically a bacterial overgrowth in the lung.

During the 1980s, an Herban Legend was born that the herb was not just "good for pneumonia" but must be "antiviral" if it helped people with influenza. You will find this designation

in most modern herbals. You can see the lack of discernment in making the leap over time from "good for serious respiratory infections when taken in very large doses up to a third of a pound of the root a day as tea from which the oils and resins have been scooped" to . . . "antiviral." I first became aware of Lomatium in the mid 1980s when a company began to market a freeze- dried extract of it in the naturopathic community in Portland. The antiviral myth was attached to the new product, and doctors and ND students in town began giving it for suspected viral infections. In this case, without reference to the actual dosage and rules of administration in the naturopathic tradition they gave comparatively huge doses of plant material in capsules. At this time a theory was common that the nerly universal Epstein Barr virus was responsible for chronic fatigue syndrome, a theory discarded by 1990 after studies showed no relationship between viral antibodies and fatigue symptoms. Yet *Lomatium* was given out to hundreds of patients not only with respiratory infections, but also with chronic fatigue. This was followed in Portland by an epidemic of the now infamous *Lomatium* rash, including multiple hospital admissions by confused doctors. I logged about 50 case reports in the first two months the product was on the market.

Lomatium rash in a hospitalized patient

Now fast-forward twenty years to Colorado, in 2003, the mosquito borne West Nile virus swept the front range towns in the worst West Nile epidemic ever to occur in the U.S. By now every herbal school in the country was probably teaching that *Lomatium* was an antiviral herb, indeeed at that time I also thought it was. Rationalizations for the rash also appeared, such as that it was from the "die-off" of virus or candida; that it only appeared when you take an overdose, only if taken as a simple, etc etc, none of which are true. In one case I reviewed a woman got the whole body rash on the third day of taking a tincture with one-fifth part Lomatium. I collected 30 West Nile cases of my own and other herbalists in Boulder who were treating the West Nile epidemic. Different herbalists used different approaches, but the most common was to stack up immune stimulants and "antivirals," such as Lomatium and Osha, with the rational that they would help kill the virus. They didn't appear to help, as in several cases I observed treated in this way, patients with mild disease progressed to neuroinvasive complications.

No herb is a broad spectrum anti-viral.

The human organism with its immune system has one of the most sophisticated anti-viral mechanisms in the universe. Many medicinal herbs can support those functions, and thus might be termed "antiviral" because they can be used clinically when a viral infection is present. Our standard herbal approaches to viral infections are built around this, with immune-enhancing, mucous membrane tonic, expectorant, diaphoretic and other actions that support host resistance. But no herb is specifically antiviral as in destroying viruses or their properties in a living human with the use of internal medicine. A virus is not alive, it is a snippet of genetic code with no metabolism. It can only "come to life" when it enters a cell, hijacks the cell metabolism and functions, and uses it to reproduce copies of itself. Each virus has particular host cell types that it can infect. As opposed to bacteria, which all share some basic genetics, structures, and metabolic functions that can be disrupted by a broad-spectrum antibiotic, viruses are wildly diverse in their genetics and methods of

entry into cell and reproduction. There can be no broad- spectrum antiviral drug or herb because there is no common mechanism in the viral life-cycle that can be attacked.

Plant constituents are often tested for anti-viral activity in lab culture studies. The plant or its constituent are put into the infected cell culture to see if they inhibit the virus there. Many plants or constituents are found in such studies to affect a specific virus, such as herpesvirus. These are amost universally *not* effective against other viruses. Except for possible effects of such herbs when applied topically to a viral skin infection, it is a fundamental error to assume that activity in the lab dish translates into effects in a human taking an oral dose for internal medicine. Yet this sort of extrapolation and assumption is nearly universal in contemporary herbals. Tp be useful in internal medicine, the plant constituents would have to survive the digestive activities of the gut, the detoxification actions of the liver, and also suffer dilution by the entire volume of the blood plasma. The concentration of the substance necessary to inhibit the virus invariably is impossible to attain in blood circulation, and in many cases would be poisonous or toxic if taken internally.

That *Lomatium* is *ineffective* against most viruses, even in culture dishes, was conclusively demonstrated in a study in British Columbia (McCutcheon et al.) Researchers took 100 local plants, including *Lomatium*, and tested them for antiviral activity in cultures of seven different virus types characteristic of seven large divisions of virus-types. *Lomatium* had *no effect* against 6 of the 7. It was effective against parainfluenza virus culture, which is unrelated to the influenza virus. It has no broad-spectrum antiviral effects and its benefit in the Lake Tahoe region was due to clinical and humoral actions on host resistance, and nothing specifically against a virus.

Note than expectoration itself enhances host resistance, as the mucous in laden with antibodies and other immune elements. And diffusive circulation with diaphoresis also promotes the movement of fluids throughout the lymphatic and immune structures of the vessels and the surface of the body. And thus expectorants and diaphoretics are standard treatment of respiratory infection and influenza in medical level herbalism. Mucous expresses the antiviral antibodies of the system, the same kind of antibodies contained in mothers milk which confer immunity on the infant. It also contains non- specific antibacterial components, and this is the reason for the traditional adage to "Keep the Membranes Moist" in respiratory infection. Lomatium may or may not enhance general host resistance, but its most specific use among the both the Washoe and the old time naturopaths was for respiratory conditions, as an expectorant, and ot specifically for viral infection.

Some contemporary herbalists are reporting use of Lomatium during the current covid-19 pandemic but it is difficult to assess any specific results at this early stage of the pandemic. The usually self-limiting and mild nature of the infection for most people also makes it hard to assess results. Lomatium is a endangered and sensitive plant. If the myth of its antiviral effects leads to its widespread use during the current pandemic, and persists in the culture afterwards, this could have adverse ecological consequences. And if it were to become widely used, we would also see a proliferation of the Lomatium rash patients heading for the emergency rooms. If an individual wants to treat covid-19 with warming, expectorant, and diaphretic herbs, with possible immune enhancing and disinfectant effects, we have many herbs in those categories that might be used alone or in formula

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Reference

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