Aspirin Alternatives

Salicin Containing Herbs

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The Willow is a shrub or tree depending on its size (some can grow to 50 feet), native to England, Europe, Asia, and North America. There are 300 species of Willow, White Willow the most famous of them. Native Americans relied on Willow for its analgesic properties.

In 1829, another bright pharmacist, this time a Frenchman named H. Leroux, discovered Willow's active chemical, salicin. In 1838, pure salicylic acid was synthesized by an Italian chemist, not from Willow but Wintergreen and other plants. Salicin and salicylic acid were widely used through the 19th century for fever, gout, pain, and inflammation. However, as usual, when you isolate chemicals from plants or synthesize them, you almost always increase their toxicity. The farther away you stray from Nature, the more likely you are to do harm. And such was the case. The high doses used routinely led to gastric irritation and vomiting.

Then came the discovery of the millennium. In 1893, Felix Hoffman at the Bayer Company in Germany, following French studies of 1853, was able to synthesize acetylsalicylic acid from a chemical called "spirin" found in Meadowsweet. And so, Bayer Aspirin® was born. And things haven't been the same since. Not only did aspirin do everything that its natural counterparts did, today it is even used to prevent heart attacks, strokes, and colorectal cancer. Bayer Aspirin® has become one of the most popular drugs sold in the world.

Since the development of aspirin in the 1890s, White Willow has fallen into disuse. However, don't count it out. It may still have some benefits over its synthetic counterpart.

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White Willow's actives are its salicylate-forming glycosides, namely salicin and salicortin. Salicin and salicortin are metabolized by intestinal flora to something called saligenin, which is absorbed into the bloodstream and is metabolized by the liver to salicylic acid. This is the active compound that is eventually excreted by the kidney.

The mechanism by which salicylic acid works is the same as aspirin. That is, it inhibits cyclooxygenase enzymes, which are involved in prostaglandin synthesis.

So, what are the benefits of nature over synthetics?

- White Willow does not interfere with coagulation. It does not prolong bleeding times, nor does it inhibit platelet aggregation. Aspirin is the only salicylate to contain an acetyl group. This acetyl group is transferred and irreversibly bound to cyclooxygenase-1 in platelets, therefore inhibiting aggregation. No acetyl group…no thrombolytic effect.
- White Willow actives are considered pro-drugs. That is, they are converted by the liver into their active salicylic acid state. This by-passes the gastrointestinal tract, thereby avoiding GI irritation.
- According to the German Federal Institute of Pharmaceutical and Medicinal Products, there is no evidence that Willow preparations should be contraindicated in small children with flu for fear of producing Reyes syndrome; the salicylates in Willow metabolize differently than aspirin (acetylsalicylic acid).
- While Willow has a slower onset of action and a longer duration of action, thereby allowing for a longer dosing interval.

Dosing is generally 60-120 mg (total salicin) daily, not to exceed 240 mg. For chronic pain, lessening is usually seen in the first few days, but best results come in the next one to four weeks of use. To obtain more potency, look for preparations that combine salicylic acid pro-phytochemicals from different herbs. Examples are: Purple Willow, Meadowsweet, Aspen, and Wintergreen.