

Escharotics for Skin Cancer

Alternative cancer treatments can offer hope to people whose animals have cancer. While some argue that they provide false hope, clients may feel forced to examine these avenues because they have nowhere else to turn. Perhaps they sought alternatives after finding that mainstream approaches were either too expensive or failed to work despite exhaustive attempts. Naturally, the immediacy of being able to search the seven million or so alternative cancer websites for a cure can tempt animal caregivers to explore non-prescription remedies. Veterinarians treating cancer patients should be conversant with not only the potential value of unconventional cancer approaches but also their dangers.

One popular alternative treatment for superficial cancers involves escharotics, or corrosive salves, applied directly to tumors. A widely-known product, "black salve", contains the herb bloodroot, otherwise known as *Sanguinaria canadensis*, often admixed with mineral agents such as zinc chloride, chromium chloride, or arsenic trisulphide, and possibly other herbs. Websites selling black salves for veterinary cancer patients generate undeniable excitement. One website lists pages of testimonials claiming quick and complete resolution of tumors deemed untreatable by conventional practitioners. Pictures on the internet of these tumors disappearing in a wide variety of animals make the message even more convincing. Even Dr. Andrew Weil, the author of the bestseller *Spontaneous Healing* and director of the Program in Integrative Medicine (PIM) at the University of Arizona in Tucson, claims that black salve cured a tumor on his dog. Further, he advocates the use of black salve for skin growths on his website.

The sequence of steps presented on these websites seems simple enough. Manufacturers suggest applying the salve directly to the tumor. A tingling sensation ensues signifying that the salve is supposedly targeting and killing the cancer, leaving normal cells untouched. Larger lesions, according to the website, require additional salve or repeated treatments, and thus may be more painful to treat, requiring analgesics. Following salve application, a thick, dry crust, or eschar, forms and supposedly "represents the death of the neoplasm". If an eschar fails to appear, manufacturers advise customers to take further measures to bring the salve in direct contact with the cancer. These include obtaining a special veterinary version containing emu oil and DMSO for added tissue penetration, or scrubbing vigorously with a loofah sponge, or poking holes through the diseased tissue with a sterilized needle. After ten days of purulent exudates and repeated bandaging, the eschar sloughs, leaving a cavity in place of the tumor.

Regarding evidence in favor of anti-cancer effects of bloodroot, a 2000 report in *Clinical Cancer Research* showed that sanguinarine does provide differential antiproliferative and apoptotic effects on cancer and normal cells. A 2002 article

in *Biochemical Pharmacology* indicated that sanguinarine induces concentration-dependent apoptosis with caspase-3 activation. It also causes a certain type of cancer cell death known as “oncosis”, without activating the protease, caspase-3. By being able to induce bimodal cell death modes in both multi-drug resistant and drug-sensitive human cervical and leukemia cells, sanguinarine not only demonstrates effectiveness against multi-drug resistance (at least *in vitro*), but also the capability of provoking cancer cell death by two different mechanisms.

A black salve manufacturer states that “there is no danger, toxic or otherwise, of applying [the product] to healthy tissue”. Furthermore, once the salve has “finished its work”, there are supposedly “normally no residual cells from the original neoplasm”, suggesting a complete cure. Scientific evidence is mixed regarding the safety of sanguinaria extract. Some researchers have linked long-term use of sanguinaria-containing oral products to increased incidence of potentially pre-cancerous leukoplakia in the maxillary vestibule. A 2005 study in *Food and Chemical Toxicology* showed that a single dose of sanguinarine alkaloid caused DNA damage in blood and bone marrow cells of mice. Stephen Barrett, MD writes of a woman who consulted a naturopath for a sore shoulder. This patient also complained of a bump on her nose, which the naturopath diagnosed as cancer. He recommended she put black salve directly on the area, and repeat the application following the appearance of red streaks, which he claimed was a good sign because the lines “resemble a crab, and cancer is a crab”. Within a week, her nose and a large segment of her face sloughed completely off, requiring seventeen plastic surgery reconstruction procedures. A 2002 observation in *Archives of Dermatology* reported three cases from one dermatology practice at the University Of Vermont College Of Medicine in which patients experienced residual tumor, severe scarring, or deep recurrence of cancer with subsequent metastasis. The authors concluded, “Physicians should recommend against the use of escharotic agents for skin cancer, and the Food and Drug Administration should be given the authority to regulate their production and distribution.” Notably, the FDA issued a warning letter to the makers of Can-x Black Salve and Can-x Black Salve Tablets on December 14, 2004. They pointed out that the claims made on the Can-x website, www.canxproducts.com, define the products as “new animal drugs”, for which no approved New Animal Drug Application was on file. The website is now offline, and the products unavailable. Nonetheless, various black salve products for animals remain on the market via other websites.