

## The Hoxsey Formula

### *The History of The Hoxsey Formula in Cancer Support*

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Harry Hoxsey's cancer treatment is one of America's most documented non-conventional, alternative treatments of cancer. The lineage of this unique formula spans a remarkable 150 years. Passed down through his family from his great grandfather, this formula peaked in use in 1950 and flourished into Harry's 14 cancer clinics, ranging across the United States. Harry Hoxsey had the largest privately-owned cancer clinic in the world, seeing 10,000 patients in Dallas alone. To this day, his treatment is still available through the Bio-Medical Center at Tijuana, Mexico.

The Hoxsey treatment evolved and centered around one herbal formula handed down from generation to generation in the Hoxsey family. Hoxsey and his formula still enjoy popular appeal, even though they have suffered 40 years of harsh attacks in the press, relentless prosecutions in the courts, (he was arrested more times than anyone in U.S. medical history, 100 times just in Dallas,) persecution by government agencies (Public Warning Against Hoxsey Cancer Treatment" that the FDA ordered mounted in 46,000 U.S. Post Offices,) and a virulent personal vendetta mounted against him by the head of the American Medical Association, Morris Fishbein (and editor of the Journal of the American Medical Association from 1924-1949).

According to Hoxsey, the formula was developed by his grandfather, a horse breeder in Illinois. His favorite stallion had a cancerous growth, and he observed this horse eat grasses and flowering wild plants in a pasture on his farm. The cancer disappeared. John Hoxsey believed it was the local plants that had healed his horse. He added some other herbs and made the formula available to other horse breeders.

Harry Hoxsey inherited the formula in 1919, from his father, he challenged Harry to treat cancer patients "if need be, in defiance of the high priests of medicine" Harry's father, was a veterinary surgeon, he believed that the formula "might be of equal benefit to human beings stricken with the same disease," John Hoxsey began "quietly treating cancer patients" under the supervision of two MDs in the region of Girard, Illinois. Harry Hoxsey supported and bolstered by his family's experience of the formula's results, made it famous, and brought the formula to thousands of people around the U.S.

**How did Harry and his formula survive?** Why weren't they extinguished? It's an amazing story full of Hollywood-like intrigues. They survived by the most amazing truth of all – the testimony of healed patients. This was Hoxsey's only defense at every trial and Senate committee meeting. He never lost one "AMA quack trial" or "slander" trial because of this moving, powerful defense from the experience of hundreds of cancer survivors. Battling against the American medical establishment of the day, not one cancer patient ever testified against him. Given to carrying wads of cash to be able to post bail at any time, (his fortune coming from Oil investments) his patients would gather at the jail in a show of support, hastening his release. Senators, judges, lawyers and some doctors endorsed his anticancer treatment. Along with hundreds of patient supporters, once seriously ill with cancer, testified that they owed their lives and continued health to him and his infamous treatment. Hoxsey's "larger-than-life" personality, unfortunately fit the stereotypical image of a quack coupled with a confrontational style, set him head-on to clash with the medical authorities for decades. Perhaps being caught up in the swinging pendulum of the medical focus of the day, that began with the swing away from herbal medicine to pharmaceuticals.



Richard Walter in his article "Hoxsey Therapy" reports: "In 1953, the Fitzgerald Report, commissioned by a United States Senate committee, concluded that organized medicine had "conspired" to suppress the Hoxsey therapy and at least a dozen other promising cancer treatments. The proponents of these unconventional methods were mostly respected doctors and scientists who had developed nutritional or immunological approaches. Panels of surgeons and radiation therapists had dismissed the therapies as quackery, and these promising treatments were banned without a serious investigation."

In 1954, an independent team of physicians from around the U.S. made an inspection of his Dallas clinic and issued an amazing statement. After reviewing hundreds of case histories and interviewing patients, doctors released a signed report declaring that the clinic is successfully treating pathologically proven cases of cancer, both internal and external, without the use of surgery, radium or x-ray. The pendulum was swinging away from blind reaction against Hoxsey.

After all the bitter opposition by the medical establishment of the day, and after all the invitations by Hoxsey, not one study on this formula was ever conducted. Whatever the reasoning, this Hoxsey lineage and experience has never been utilized even after a few retrospective outcome studies have proven the percentages of patient mortality outcomes past five years, should stimulate some medical research interest. (Assessment of outcomes at alternative medicine cancer clinics: a feasibility study. Richardson MA, Russell NC, Sanders T, Barrett R, Salvesson C. 2001)

Medical historians have studied the use of the ingredients in this formula, which were used by native American tribes and have observed the transmission of this usage of these herbs to local settlers and their doctors. Remembering the context of the times, American Eclectic Physicians were a group of doctors devoted to clinical research and the use of herbal preparations in treating disease. They flourished a hundred years up to 1939 and had medical schools that taught sophisticated methods of herbal formulation and prescription, the main of medicine at that time.. Their work is a rich resource to this day. Out of this climate came the Hoxsey formula and other similar formulas containing some of the same ingredients.

Reported by Kenny Ausubel in his article "Tempest in a Tonic Bottle": "To Francis Brinker a Naturopathic Doctor and historian, there is a striking similarity to an old red clover-based eclectic formula. He traced the origins of the Trifolium (red clover) extract back to the nineteenth century, when Parke, Davis, and Co. produced a Syrup called Trifolium Compound with similar ingredients to Hoxsey's formulas. The formula was also described in an official American Pharmaceutical Association listing of drugs called the National Formulary in 1926 and 1936.

Yet another Extract of Trifolium Compound was listed in the 1898 *King's American Dispensatory*, the preeminent compilation of medicines used by Eclectic doctors. It was prescribed for syphilis, scrofula, rheumatism, and glandular and skin conditions. This "Compound Fluid Extract of Trifolium" contained all the Hoxsey ingredients except buckthorn, and also had may apple root, *Podophyllum peltatum*.

"Alteratives, known in folk medicine as "blood cleansers," were seen as assisting organs that remove metabolic waste and toxins from the circulation. Alteratives were believed to improve the quality of the blood by assisting digestion, improving circulation, and accelerating the processes of elimination, thereby correcting faulty metabolism. The knowledge concerning their action was wholly empirical. Health was seen as a product of the quality of the blood, since the blood brings nourishment to tissues and cells and must remove the cellular waste.

"Cleansing the blood," Brinker continues, "occurs as it is filtered through the organs which excrete cellular

waste products. When these organs of elimination do not function adequately, it becomes increasingly difficult to maintain a healthy ecology of the cells. This makes them more susceptible to carcinogens.<sup>20</sup>

"This model for the action of alteratives was practically applied by the late-nineteenth-century Eclectic prescribers in the treatment of chronic and cancerous conditions. Such was their success that the alteratives were considered to have been among the most useful medicines in Eclectic therapeutics."

The Hoxsey formula's real purpose was not to kill cancer cells directly. Rather, it was to create an overall terrain unfavorable to the growth of cancer cells. Simultaneously its effect was the enhancement of the body's own immune response and capacity to eliminate toxins. From these perspectives, the Hoxsey tonic is a credible approach.

In 1988, the Office of Technology Assessment (OTA) of the United States Congress commissioned the following "contract report" as a background paper to aid in its consideration of the Hoxsey Therapy. The OTA, at the request of Congress, was the first Federal agency to review the Hoxsey Therapy and other major unconventional or alternative cancer treatments during a five year long process that resulted in the OTA's 1990 publication Unconventional Cancer Treatments by Patricia Spain Ward, PhD, a widely published academic medical historian. She reported, "Hoxsey's formula, however strangely concocted by modern scientific standards, does indeed contain many plant substances of marked therapeutic activity [emphasis added]." She further added; "In fact, orthodox scientific research has by now identified antitumor activity of one sort or another in all but three of Hoxsey's plants and two of these three are purgatives, one of them (*Rhamnus purshiana*) containing the anthraquinone glycoside structure now recognized as predictive of antitumor properties (Kupchan, 1976). Between 1964 and 1968, four articles appeared in *Lancet*, *Pediatrics*, and *Nature*, describing the mitogenic activity of pokeweed, which triggers the immune system by increasing the number of lymphocytes, causing the formation of plasma cells, and elevating levels of immunoglobulin. (Farnes, 1964; Barker, 1965; Barker, 1966; Downing, 1968).

In 1966 two Hungarian scientists, engaged in a screening program at the University of Szeged, published their findings of "considerable antitumor activity" in a purified fraction of burdock, a plant which they included in their project because of its use as a folk remedy for new growths and ulcerations (Dombradi, 1966). In 1972 Kupchan described the growth-inhibiting activity of sesquiterpene lactones, a structural group which includes burdock (Kupchan, 1972). In 1984 researchers at Nagoya University, Japan, found in burdock a new type of desmutagen: a substance uniquely capable of reducing mutagenicity both in the absence and in the presence of metabolic activation. So important is this new property that these scientists named it the B-factor, for burdock factor (Morita et al., 1984).

Two recent studies from the East, one Japanese, one Chinese, have established the presence of antitumor substances in barberry (which Hoxsey also sometimes called berberis root). Testing tumor size in mice by the total packed cell volume method, Hoshi and his co-workers found strong antitumor activity in berberrubine, an alkaloid isolated from *Berberis vulgaris* (Hoshi, 1976). Also in 1976, Owen et al. derived from berberine a new antitumor substance which they have named Lycobetaine (Owen, 1976).

At the University of Virginia in the mid-70s, Kupchan and Karim isolated an antileukemic principle from buckthorn (*Rhamnus frangula*). Their discovery that the efficacy of this substance in leukemia is vehicle-dependent led these scientists to advise re-testing of other anthraquinone plant substances for similar antitumor activity (Kupchan, 1976).



## Modern research is vindicating Hoxsey's life mission?

According to the study, funded by the N.I.H., ( "Assessment of Outcomes at Alternative Medicine Cancer Clinics: A Feasibility Study,") at a point five years after a new group of Bio-Medical Center (Hoxsey) cancer patients began their treatment in 1992, 11.4 percent of them were alive, 34.9 percent were deceased, and 42.9 percent were lost to follow-up. These results are conservative, but in contrast to the dismal outcome of most standard forms of cancer therapy on late stage patients, seem promising. The study's authors conclude, "Given the widespread use of both clinics, [and] intriguing anecdotal reports at both sites . . . we recommend prospective monitoring systems to provide reliable information on the clinical outcomes associated with these treatments."

James Duke, Ph.D. is a recognized expert in the field of natural plant medicines. Duke noted that all the Hoxsey herbs have a long empirical tradition of Native American usage for cancer, several stretching back as far as three thousand years some of the plants in Hoxsey's tonic contained chemical compounds of considerable interest to the National Cancer Institute (NCI). Duke evaluated the safety of the herbs in Hoxsey's tonic and found that only one, poke root, was potentially toxic. However, the amount of poke root included in Hoxsey's formula was presumably well within the safe range. Duke concluded that eight of the nine Hoxsey-tonic herbs have chemical constituents containing anti-tumor activity (as shown in animal models), five have antioxidant effects, and all nine have antimicrobial activity that may be linked to cancer-fighting effects. Duke's assessment was that the Hoxsey tonic ingredients showed very significant chemical and biological anticancer activity.

The University of Texas M.D. Anderson Cancer Center performed an extensive human studies literature review of the Hoxsey treatment and found four studies applicable to cancer. The studies report response to therapy although none of the studies used controls against which to measure response. Individual components of the formula have been tested in the laboratory or in animals. Seven of the nine herbs in the formula have shown some anti-cancer activity. M.D. Anderson Cancer Center recommends that more studies of both the external and internal components of the Hoxsey formula are needed.

### The Formula

Hoxsey used variations around the following herbs: He also used external applications of different salves for external application. Nearly all treatments were centered around some variation of the following herbs.

The nine herbal ingredients listed on the label of his tonic were:

**Red Clover**, *Trifolium pretense*. Red Clover showed no activity when tested in the P388 system (254). NCI tested Red Clover 94 times, with one test showing activity that was not considered significant.

**Burdock Root**, *Arctium lappa*. Two studies reported antitumor activity in animal tumor systems, while two others reported no significant activity for this herb. Burdock Root contains chemicals that have shown anticancer activity in laboratory tests on cancer cells, and has other compounds with potent immune-enhancing effects. Burdock has been long used as a folk cancer remedy in Chile, China, India, Canada, Russia, and the United States. A Japanese study discovered a new substance in burdock uniquely capable of reducing mutagenicity. Herbalists also recommend burdock as a blood purifier, used to clear toxins and heat. This is also used in another herbal cancer formula, "Essiac".

**Stillingia Root**, *Stillingia sylvatica*, also called Queen's Root). No tests of Stillingia have been reported, although one of its constituents (gnidilatidin) has tested positive in animal systems. NCI has no record of testing it for antitumor activity.

**Barberry Root**, *Berberis vulgaris*. Two studies have reported antitumor effects of substances isolated from Barberry. NCI reported one test of Barberry, which showed no antitumor activity.

**Licorice**, *Glycyrrhiza glabra*. One study reported that licorice was inactive in the Sarcoma 37 test system. NCI tested licorice 19 times, with one sample showing activity that was not considered significant. This used as a formula harmonizer, helping to harmonize the other herbs into an effect team.

**Poke Root**, *Phytolacca americana*. One published study reported no significant antitumor activity of Poke Root in three animal test systems (Ehrlich ascites, Leukemia SN36, and Sarcoma 180) (969). A component of Poke Root is well known, however, for its ability to induce the proliferation and differentiation of lymphocytes in the blood (720), a property that might be relevant to an immunologic response to cancer but which might not be picked up as positive activity in these animal tumor models. NCI tested Poke Root for antitumor activity 43 times; in one of these tests, activity was reported in the Walker 256 system, but this test system was later withdrawn because of problems with its validity.

**Cascara Amarga**, *Acosmium panamense*. Cascara also contains aloe-emodin and emodin, which have shown antitumor activity in animal tests systems. No antitumor activity was found when a powdered plant suspension of Cascara was tested in the Sarcoma 37 system. NCI tested Cascara 16 times and found no antitumor activity.

**Prickly Ash Bark**, *Zanthoxylum americanum*, *Z. clava herculis*. No tests for antitumor activity of Prickly Ash have been reported in the literature, although some of its components (e.g., chelerythrine and nitidine) have tested positive in animal systems. NCI tested this plant for antitumor activity 5 times, with no positive results.

**Buckthorn Bark**, *Rhamnus frangula*. Antitumor activity of a component (aloe-emodin) of buckthorn has been reported in the P388 tumor system (495) and in the Walker 256 system (summarized in (384) (the Walker 256 test was later withdrawn from use because of problems with its validity). Two other components, emodin and dihydroxyanthroquinone, may also have antitumor activity in animal systems. NCI tested buckthorn in animal systems three times, with no antitumor results.

The tenth ingredient was potassium iodide.

Taken together, the data indicate that many of the herbs used in the Hoxsey internal tonic or the isolated components of these herbs have antitumor activity or cytotoxic effects in animal test systems. The complete Hoxsey herbal mixture has not been tested for antitumor activity in animal test systems, with human cells in culture, or in clinical trials, however. It is unknown whether the individual herbs or their components that show antitumor activity in animals are active in humans when given in concentrations used in the Hoxsey tonic. It is also unknown whether there might be synergistic effects of the herbs used together.

## References



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3. Ken Ausubel, "The Troubling Case of Harry Hoxsey," *New Age Journal*, July-August 1988, p. 79.
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8. Harry Hoxsey, You Don't Have to Die (New York: Milestone Books, 1956), pp. 44-48.
9. *Ibid.*, p. 59.
10. Francis Brinker, "The Role of Botanical Medicine in 100 Years of Naturopathy," *HerbalGram*, No. 42, spring, 1998, pp. 49-59; "Where Does Eclectic Come From?" Eclectic Institute, Inc. promotional literature, Sandy Oregon, 1998.

## Resources

1. Bio-Medical Center P.O. Box 727 615 General Ferreira Colonia Juarez Tijuana, Mexico 22000 Phone: 011 52 66-84-9011 01152 66-84-9081 01152 66-849082 01152 66-849376.
2. The Cancer Survivors and How They Did It, by Judith Glassman (see Appendix A for description).
3. "Does Mildred Nelson Have an Herbal Cure for Cancer?" by Peter Barry Chowka, *Whole Life Times*, January-February 1984.
4. "The Troubling Case of Harry Hoxsey," by Ken Ausubel, *New Age Journal*, July-August 1988.

## Other Material

- a. Video: Hoxsey: When Healing Becomes a Crime (originally entitled *Hoxsey: Quacks Who Cure Cancer?*), 1987. Ninety-six minutes. An excellent, very moving documentary on the Hoxsey therapy, covering its history, the Bio-Medical Center, and the politics and economics of cancer. Produced and directed by Ken Ausubel and coproduced by Catherine Salvesson, R.N., it premiered at the Margaret Mead Film Festival in New York and was shown on cable television. Available from Realidad Productions (P.O. Box 1644, Santa Fe, NM 87504; 505-989-8575).

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10. Francis Brinker, N.D., "The Hoxsey Treatment: Cancer quackery or effective physiological adjuvant?" *Journal of Naturopathic Medicine*, Vol. 6, No. 1, 8.15.96, pp. 9-23.



11. Harry Hoxsey, *You Don't Have to Die* (New York: Milestone Books, 1956).
12. That formula listed alfalfa, buckthorn bark, cascara sagrada, prickly ash, red clover, potassium iodide, and honey drip cane syrup.
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14. Francis Brinker, "The Role of Botanical Medicine in 100 Years of Naturopathy," *HerbalGram*, No. 42, spring, 1998, pp. 49-59; "Where Does Eclectic Come From?" Eclectic Institute, Inc. promotional literature, Sandy Oregon, 1998.
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  43. Arase Y.K., Ikeda N., *et al.*, "The Long term efficacy of Glycyrrhizin in chronic hepatitis C patients," *Cancer*, Vol. 79, 1997, pp. 1494-1500.
  44. Because alfalfa has not been listed in the Hoxsey formula since 1949, I have not presented data on it here. It too has a strong anticancer profile, including the anti-angiogenic genistein. See Father Nature's Pharmacy and appendix [of Ausubel's book].
  45. The Eclectics used potassium iodide as a treatment for syphilis, rheumatism, and scrofula (an erosive infection of the lymph nodes of the neck). Brinker, op. cit.
  46. Letter from Dr. G.M. Anderson, *Defender*, 4.56. Conventional doctors employed it extensively earlier in the century to promote the absorption of broken-down tissues and dissolve fibrous lesions after pneumonia, bronchitis, pleurisy, syphilis and other diseases.
  47. Arthur Bryan, "Clinical Observations in Treatment of Chronic Swellings with Topical Injections of Potassium Iodide," *The North American Veterinarian*, Vol. 7, No. 11, 11.26, pp. 23-24; Bryan, "Therapeutic Indications for Potassium Iodide," *Veterinary Medicine*, Vol. XXV, No. 4, 4.30, pp. 144-51.
  48. These studies carefully documented potassium iodide as "one of the few specific cures" for actinomycosis [lumpy jaw], inflammatory fungal swellings in horses, cows, and other animals. It was used both orally and by injections.



- Its practical results were unmistakable. The administration of potassium iodide caused the resolution and repair of these large lumps and inflammations. It was able to dispel pumpkin-sized, hard swellings "resembling a bloody sponge bleeding copiously," within two weeks, in one case. In another instance, it eliminated a cauliflower-size growth on an animal's hoof. In the 1926 study, the author concluded, "I unhesitatingly recommend potassium iodide injection for all growths chronic in character," as well as cysts, warts, collar tumors, and other similar maladies.
49. Bryan's follow-up 1930 publication documented an even broader range of astonishing cures including cancer. One case was "an ugly, inoperable neoplasm, diffuse hemorrhagic and with an offensive odor located around the vulva of a Holstein cow. I used a saturated solution of potassium iodide and it resulted in extensive necrosis [tumor death] all around the original tumified area. Due to the laboratory diagnosis of malignant carcinomatosis [cancer], the owner refused to keep the cow, and she was slaughtered two weeks later. A microscopic examination of sections taken at this time revealed almost no cancer cells. The potassium iodide evidently destroyed and disintegrated the tissues which it penetrated to, bringing about cell shrinkage or necrosis with resorption of the detritus and broken down tissue structures." (Bryan concluded that he believed it to be only a temporary treatment, however, since the spread of the cancer might theoretically continue afterward.)
  50. Letter from Arthur Bryan to AMA Bureau of Investigation, 3.11.51.
  51. Letter from Edmund M. Burke to Oliver Field, AMA Bureau of Investigation, 6.11.51.
  52. Letter from Dr. Gordon A. Granger, FDA, to R.M. Davenport, with list of medical citations, including testimony of Dr. Maxamillian A Goldzieher from Hoxsey trials; "Four Doctors Blast Claims of Hoxsey," *Johnstown Tribune-Democrat*, 10.17.56.
  53. Bryan also wrote Hoxsey in 1951, eager to draw attention to his exciting findings. Dr. Durkee replied, noting "We have felt that the iodides, especially potassium iodide, reacted as a catalyst at the time the medications were prepared, and that the end result of this was what gave us the reaction." Letters from Arthur Bryan to Hoxsey Cancer Clinic, 2.19.51 and from J.B. Durkee, D.O., Medical Director, to Bryan, 3.28.51.
  54. During Dr. Ivy's visit to the clinic, Dr. Durkee reported to him that he thought that "the mixing of the ingredients in the internal solution produced a new anti-cancer substance. This they said was indicated because the solution got cold and this occurred when the KI was added." "Abstracts of 'Tests' and 'Cures'," Committee on Cancer Diagnosis and Therapy, National Research Council, 2.1.51, containing Dr. Ivy's "Notes: On a Visit to the Hoxsey 'Cancer Clinic'," 2.10.49.
  55. Robert G. Houston, *Repression and Reform in the Evaluation of Alternative Cancer Therapies* (Washington DC: Project Cure, Inc. 1987), p. 7 (quoting Schweitzer, 1962).
  56. Dr. Max Gerson, *A Cancer Therapy: Results of 50 Cases and the Cure of Advanced Cancer by Diet Therapy* (Bonita, CA: The Gerson Institute in association with Station Hill Press, fifth edition, 1990; first edition copyright 1958); "Cancer Research: Hearings before a Subcommittee of the Committee on Foreign Relations," *US Senate, 79th Congress, Second Session on S. 1875*, US Government Printing Office, 7.1-3.46, pp. 98-123. According to Gar Hildenbrand, former director of the Gerson Institute, Dr. Gerson said he found a severe imbalance in cancer patients of the ratio of sodium and potassium, with a deficiency of the latter. He was convinced by laboratory findings of the time that potassium iodide would better supply iodine to replenish deficiencies and enhance metabolism quickly. Dr. Gerson believed, as subsequent research has shown, that iodine helps increase cell metabolism by stimulating the thyroid gland's production of hormones, in turn retarding and inhibiting tumor growth.
  57. David West, M.D., who headed the Hoxsey Research Foundation, contended that potassium iodide "inhibits glycolysis" (the anaerobic metabolism of sugars), which he characterized as causing the specific biochemical lesion of the malignant cell. He agreed with Dr. Max Gerson that malignant tissues are impoverished of potassium and iodine, and corrected it with potassium iodide. Dr. West and many naturopathic physicians explicitly considered it an alternative. Dr. David West, "Answering Commissioner Larrick," *Defender*, c. 1953, pp. 7-8; also, E. Edgar Bond, B.L.M.D., "What's in the Hoxsey Treatment?" *National Health Federation Reprint 4H*, c. 1953; "2 Hoxsey Witnesses, Both Doctors, Bared as Crime Violators," *Pittsburgh Post-Gazette*, 10.30.56; "Potassium Iodide Claimed Beneficial," *Johnstown Tribune-Democrat*, 10.30.56; Dr. David West, "Answering Commissioner Larrick," *Defender*, 6.56; West, "Hoxsey Chemotherapy," *Defender*, no date; Physicians of the period commonly employed potassium iodide for a wide range of diseases including pneumonia, bronchitis, pleurisy, and syphilis. It was believed to promote the absorption of deposits of broken-down tissues, while stimulating the thyroid and other glands which enable blood cells to combat infectious processes.
  58. Letter to the editor from Alan Morris, "For a Clear KI Policy," *New York Times*, 11.21.88; "Report on the Accident



- at Chernobyl Nuclear Power Station," *US Nuclear Regulatory Commission, NUREG-1250*; "States Will Now Receive Drug for Public Use in Nuclear Mishaps," *New York Times*, 8.22.98; "Atom Agency Tries to Avoid Financing Fallout Drug," *New York Times*, 4.24.99.
59. Potassium iodide is also used by conventional medicine to protect against radiation. It is administered in tandem with the diagnostic usage of radioactive iodide. Studies further show that it is an effective antioxidant for its free-radical scavenging properties. It is used to treat a disease called Sweet's syndrome which is associated with cancer but is not cancer. Mouse tests have shown both pro- and anticancer effects. Medline on the world wide web at a public site has numerous references on potassium iodide from which this is drawn:  
<http://www.ncbi.nlm.nih.gov/PubMed>.
  60. Cited in *Unconventional Cancer Treatments (OTA)*.
  61. Letter from Dr. Richard Early to Martin Murphy, President and CEO, Hipple Cancer Institute, Dayton, Ohio, personally provided to author.
  62. Steve Austin, Ellen Baumgartner Dale and Sharon DeKadt, "Long term follow-up of cancer patients using Contreras, Hoxsey and Gerson therapies," *Journal of Naturopathic Medicine*, Vol. 5, No. 1, 1994, pp. 74-76.
  63. Ward, "History of the Hoxsey Treatment," op. cit., p. 70.
  64. Tsung-Yao, Show-yin, Su-Yin, Wang, *et al.*, "A new antitumor substance-Lycobetaine," *K'o Hsueh Tung Pao*, Vol. 21, No. 6, 1976, pp. 285-87;
  65. Wolf S., Mack M., "Experimental study of the action of bitters on the stomach of a fistulous human subject," *Drug Standards*, Vol.24, No.3, 1956, pp. 98-101;
  66. Ikram M., "A review on the chemical and pharmacological aspects of genus *Berberis*," *Planta Medica*, Vol. 28, 1975, pp. 353-58;
  67. Suess T.R., Stermitz F.R., "Alkaloids of *Mahonia repens* with a brief review of previous work in the genus *Mahonia*," *Journal of Natural Products*, Vol. 44, 1981, pp. 680-87;
  68. Velluda C.C., Goina T., Ticsa I., Petcu P., Pop S., Csutak W., "Effect of *Berberis vulgaris* extract and of the berberine, berbamine, and oxyacanthine alkaloids on liver and bile function," *Lucr. Prez. Conf. Natl. Farm.*, Bucharest, 1958, pp. 351-54, (contained in *Chemical Abstracts [C.A. henceforth]* Vol. 53, p. 15345a);
  69. Turova A.D., Konovalov M.N., Leskov A.L., "Berberine, an effective cholagogue," *Med. Prom. SSSR* Vol. 18, No. 6, 1964, pp. 59-60 (C.A. Vol. 61, p. 15242f);
  70. Amin A.H., Subbaiah T.V., Abrasi K.M., "Berberine sulfate: antimicrobial activity, bioassay, and mode of action," *Cancer Journal of Microbiology*, Vol. 15, 1969, pp. 1067-76;
  71. Kumazawa Y., Itagaki A., Fukumoto M., Fujisawa H., Nishimura C., "Activation of peritoneal macrophages by berberine-type alkaloids in terms of induction of cytostatic activity," *International Journal of Immunopharmacology*, Vol. 6, No. 6, 1984, pp. 587-92;
  72. Schmitz H., "The influence of berberine on cellular metabolism," *Z. Krebsforsch.* Vol. 57, 1950, pp. 137-41, (C.A., Vol. 46, p. 4680i); Shvarev I.F., Tsetlin A.L., "Antiblastic properties of berberine and its derivatives," *Mater. Vses. Konf. Issled. Lek. Rast. Perspekt. Ikh Ispol'z. Proizvod. Lek. Prep.*, 1972, p. 245, (C.A., Vol. 83, p. 674m); Taylor A., McKenna G.F., Burlage H.M., "Anticancer activity of plant extracts," *Texas Reports in Biological Medicine*, Vol. 14, 1956, pp. 538-56; *Unconventional Cancer Treatments*, op. cit.
  74. Barberry has traditionally been used for cancers or tumors of the liver, neck and stomach. The bark of the stem is considered cleansing and toning to organs of digestion and elimination. It contains numerous protoberberine alkaloids, such as berberine sulfate, which has shown activity in a number of tumor systems. It also contains the alkaloid oxyacanthine, which is active against at least one tumor system. Brinker, op. cit.
  75. The species of barberry which Hoxsey cited is *Berberis vulgaris*, which grows in the Midwest. According to Ward: respective 1976 Japanese and Chinese studies established the presence of antitumor substances in this variety of barberry. Testing tumor size in mice, Hoshi and his co-workers found "strong antitumor activity" in berberrubine, an alkaloid isolated from *Berberis vulgaris*. (op. cit.) Also in 1976, Owen *et al.* derived from berberine a new antitumor substance which they have named Lycobetaine (op. cit.).

