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Ethnophytotherapies for Treatment of and Prevention against Cancer

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ABSTRACT

This paper examines various traditional and alternative practices utilised by Malaysians for the treatment of and prevention against cancer. A list of plants used for treating cancer is given. Care for cancer patients includes food reputed to be good in promoting recovery and preventing recurrence as well as food taboos - various food to be avoided in the belief that these types of food can induce development or recurrence of cancer.

Key words : cancer, food Taboos

INTRODUCTION

At the beginning of the twentieth century tremendous advancements were made in medicine as causes of diseases were discovered and new super drugs were isolated and synthesized. Many modern medicines were products isolated from traditional plant source extract. These included morphine, quinine and ephedrine. Once the natural active principle was determined, scientists synthesized many chemically related compounds which became better medicine than the original products. The synthetic compound may retain the active site in the molecule but different side groups were added to improve entry into the human system and negate some of the adverse effects of the original compound. By the middle of the twentieth century medical chemists value. Many companies felt that the chance of new discoveries was increasingly diminishing. It also became easier to design completely synthetic drugs that address specific biochemical problems. Towards the end of the twentieth century, many drug companies realized that many plants used in traditional medicine in Africa. Asia, Australia and Latin America have never been fully tested and they hold promise for new compounds of medicinal impotence (Simpson & Conner-Ogorzaly, 1986)

The present time is therefore an active period of plant prospecting for new chemical compounds with potential for treating various diseases that still plague humankind such as cancer, cardiovascular diseases and diabetes. New diseases such as HIV or AIDS also stimulate the search for active compounds from plants, animals and fully synthetic compounds. Some old diseases are also making a comeback with resistant strains that need new medicines for treating malaria,

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tuberculosis, syphilis, etc. Bioprospecting can take the from of a general chemical search of all organisms that exist in the world which is being carried out through the sponsorship of USA, or more focussed search among certain plant families or among plants used in traditional folk medicine as followups of ethnobotanical studies. Cancer is one of one of the most dreaded diseases of the present time. The search for effective anticancer agents have produced some successes.

In the present state of advancement in communication that is available in most countries in this world, news of any development in the treatment of cancer will quickly spread throughout many nations. When traditional resources such as plants and animals or parts of these organisms are used in the treatment of and care for cancer patients, these material will quickly be made available in the markets. Many plants used in other countries in relation to cancer are now grown under the humid tropical conditions of Malaysia. Chinese medicine is widely available in Malaysia and numerous types of plants, animals and their parts obtained from various parts of the world are sold in Malaysia, including those used for treating cancer. Malaysia also have strong practices of traditional medicine among the other ethnic groups such as the Malay and Indians and also among the various indigenous communities. Even communities living in clearings surrounded by thick forests know about the ailment called cancer and have some remedy for it.

A plant used in European folk medicine for treating diabetes is periwinkle(Catharanthus reseus, Apocynaceae). Active chemicals extracted from this plant, vinblastine and leuocristine proved effective in curing some forms of leukemia, especially those afflicting children, such as lymphocytic leukemia. It is also effective against Hodgkin' s disease. Another plant containing anti-tumor alkaloids is May apple(Podophyllum peltatum, Berberidaxeae). Native Indians of north Amerixa used this plant as purgative and to treat skin disorders and tumorous growths. The active compounds podophyllin and peltatin are effective in treating lymphocytic leukemia. Colchicine is an alkaloid extracted from the autumn crocus(Colchicum autumnale, Liliaceae) used as a chemotherapeutic agent for the treatment of cancer (Simpson & Conner-Ogrozaly, 1986).

This paper examimes the rich ethnophytotherapia that exists in Malaysia based on knowledge and utilisation of plants and parts of plants whether the plants are native in Malaysia, introduced plants that are already naturalised, exotic foreign plants cultivated specifically for medicine of herbal medicine being sold in Malaysia using parts of plants obtained from other countries. Folk beliefs and practices involving the animal kingdom in relation to cancer is also included in this paper so that a more thorough picture can be presented.

Perceived or Actual Causes of Cancer

Cancer has proven difficult to overcome due to two main reasons. Firstly, there are many types or forms of cancer. Each is different from the other. Progress made in one cannot translate to the rest. Compounds that are effective for leukemia in children are not so effective for adults and cannot be used for other types of cancer. The second reason is what causes cancer. Treatment of various diseases have proven much more effective after the actual cause or causes are known. In the case of cancer, even the experts are not in agreement as to the causes. Many sources are attributed as causes of cancer, harmful factors in the environment, in the food, social or cultural lifestyle and also genetic aberrations. Different studies have given different causes of cancer, sometimes with contradictory opinions and conclusions.

One of the primary assumptions investigated by researchers has that cancer is caused by some external exposure to some unnatural elements. It was a theory supported by overwhelming scientific evidence that smoking leads to lung cancer and sun exposure leads

to melanoma, that is, skin cancer. Scientists continue to regard environmental toxins as a significant cause of rising cancer rates in the developed world. Enormous number of studies conducted in the past three decades found few correlations between environmental factors and cancer. From electromagnetic fields and pesticides to microwaves and smog, studies have found little evidence of links. A major study in New York found no evidence of and increased breast cancer risk among women with high levels of organochlorines from pesticides and industrial chemicals such as DDT and PCB in their blood, the chemicals most likey to pose a risk. While stomach cancer was the No. 2 cancer in the United States 40 years ago, it is now seventh while endogenous hormone-related cancers like breast and prostrate cancers climb higher. If one assumes increased incidence of breast cancer is due to pesticides, then the agricultural heartlands will have the highest rates but they are among the lowest while urban areas where educated women who delay their childbearing are among the highest suggesting that sociocultural changes affecting women' s lifetime hormone exposure are highest suggesting that sociocultural changes affecting women' s lifetime hormone exposure are responsible(Henderson & Preston-Martin, 1998).

Others point to increasing evidence that some health problems that specifically affect women such as infertility, contaminated breast milk, breast cancer, miscarriages and birth defects are caused by environmental pollution. Researchers explain that organochlorines in pesticides taken into the body through water or air can trigger unnatural cell growth that may progress to become cancer. US counties with hazardous waste sites are 6.5 times more likely to have elevated breast cancer rate than counties which do not have such sites. Women who work around hazardous chemical such as in the petroleum, chemical, pharmaceutical and electrical equipment manufacturing industries have higher rates of breast cancer. Some chemical waste such as dioxins are carcinogenic(Knight, 1998).

Cancer is a disease of genes gone bad. Generally it take several genetic flaws accumulated over a lifetime to finally tip a cell into uncontrolled growth. Even when that happens it takes another decade or two before it grows into a tomour large enough to be noticed. New medicines developed to counter this effect such as Herceptin may help some people sometimes but are likely to be used mostly in combination with standard treatment such as chemotherapy, radiation and surgery(Haney, 1998).

Cancer is a disease resulting from the growth of abnormal cells in various parts of the tissues, organs and body. Although certain individuals are genetically prone to developing this disease, the accumulation of unacceptable levels of toxins within the body has a profound influence on a person' s susceptibility to the disease. Thus a person can develop cancer even though no other blood relatives had ever developed cancer although it is said that one is more susceptible to the disease if a blood relative has the disease(Yap, 1997).

The majority of cancers arise from a complex set of combined factors including a genetic predisposition, internal chemistry such as chromone levels are often genetically predetermined, and to a certain extent lifestyle decisions that impact those predispositions. Studies have shown that the American population' s increasing obesity is more of a cancer risk than any environmental exposure. Studies have also shown that women who delay childbearing until after 30, who have early menarche and fewer pregnancies, who get limited exercise, particularly in their teens and 20s and who take estrogen replacement therapies are more at risk for breast cancer. The cancer of cancer may not be from an external exposure but from within a person, the genetic susceptigiltiy combined with unhealthy diet and lack of exercise(Henderson & Preston-Mflrtin, 1998).

To the lay person, cancer is caused by pollutants

in the environment, the food we eat, the drinks we consume and the genetic aberrations that we may be endowed with. All these boils down to only two factors. First is the attacking agent, be it carcinogenic substances, toxins, pollutants, chemicals, gases, food or drinks. The second is the defense system of the body or its ability to get rid of these attacking elements which may be inherited or mutated genetic aberrations, living and unhealthy lifestyle and not maintaining proper body health. If there is no exposure to or intake of attacking agents there should be no cancer. Thus avoidance of such substances and maintaining a healthy body is said to reduce the chances of contracting this disease. The body defense system also contributes to the possibility of contracting cancer. Thus two or more persons leading exactly the same lifestyle, consuming the same food and drinks, maintaining the same level of external health, may result in one getting cancer and the other do not. In traditional health practices, prevention is better than cure. Some healthy people not only practice avoidance of potentially harmful substances or situations, but also seek out potentially good food and practices that can reduce the possibility of getting cancer even though there are no guaranteed strategies to avoid cancer.

Anti-cancer therapies

Just as there are various opinions and theories regarding the causes of cancer, there are various anti-cancer therapies practiced by the lay people either by itself or together with allopatric treatments of operation to remove tumors, radiotherapy and chemotherapy. There are also differing views, such as the benefits or harm of taking vitamin pills as compared to obtaining the same vitamins through consumption of the right kinds of food. Such differences occur among scientists as well as the lay people.

Vitamin supplements such as beta carotene have no cancer prevention benefits as opposed to a diet rich in fruits and vegetables. Studies have shown that mega doses of vitamins and minerals, especially beta carotene, can be toxic and harmful to the body. A high intake of fruits and vegetables can allay diabetes, heart diseases and cancer. Anti-oxidant vitamins such as vitamins A, C and E act as scavengers and neutralize free radicals in the body. Oxygen-free radicals are by-products of metabolism which may trigger off a sequence of processes which could lead to cancer. Vitamin A has been found to be helpful in reducing the incidence of liver cancer, vitamin C reduces the risk of stomach, rectum and cervical cancer, vitamin E helps in the prevention of lung cancer. Researchers suspect that phytochemicals reduce cancer risk by stimulating anti-cancer enzymes, blocking cell damage and transporting carcinogens out of the body. Food with the highest anti-cancer activity include garlic, soybeans, cabbage, ginger, licorice, parsley, parsnip, citrus fruits(Kam, 1998a & b).

A powerful new anti-oxidant has been extracted from the bark of *Pinus radiate* trees. This species is New Zealand' s major plantation crop. Scientists have developed a method to extract antioxidants from the bark and manufacture tablets without creating toxic by-products or compromising the purity of the antioxidants. Other scientists extracted antioxidants from the bark of Pinus maritima which grows wild in France. Antioxidants are claimed to strengthen blood vessels, improve circulation and skin smoothness, fight inflammation, improve joint flexibility, slows the ageing process and helps prevent some diseases, including cancer. Antioxidants scavenge and neutralize free radicals, rogue cells in the body that damage other cells(Anonymous, 1998).

There are natural ways to adopt to enhance the immune system to ward off diseases, including cancer. Adopting a certain dietary lifestyle based on specific nutritional programmer could greatly assist a person battle against cancer and significantly reduce the chance of

developing cancer. The nutritional programmer includes eating raw, green and unprocessed foods(live food), including consuming natural fruit juices. One also need to maintain a positive mental frame, adequate rest and appropriate exercise. The nutritional programmer must be maintained for quite some time for all the abnormal cells in the body to revert back to normal and healthy cells(Yap, 1997).

Food taken to fight cancer

In ethnotherapy and traditional health care, food consumption and abstinence is practiced in the belief that we are what we eat. This is evident in the practices of most Asians where each ethnic group of people have developed their own observations and practices of food consumption in respect of what is good for the body and what is not. This is true among the city dwellers, villagers, and forest dwellers. Even westerners have formed some practices of food consumption and avoidance as part of their effort to fight cancer as can be seen from the list of food said to be good in helping to get rid of this dreaded disease from the body. A compilation of food to be taken to fight against cancer are:

Asparagus, beet, broccoli, Brussels sprouts, cabbage, carrots, cauliflower, celery, chard, chicory, corn, eggplant, endive, escarole, collard. garlic, turmeric, turnip, mustard, dandelion, string beans, soya beans, kale, lentils, lettuce, mushrooms, onions, okra(ladies' fingers), parsnips, green peas, green and red peppers, potatoes, pumpkin, brown rice, rutabagas, spinach, sweet potatoes, watercress, apples, apricots. blackberries, blackcurrants, cantaloupes, cherries, cranberries, figs, grapes, grapefruits, lemons, limes, oranges, papayas, peaches, pears, pineapples, plums, prunes, raisins, raspberries, strawberries, tangerines, watermelon, greater galanga (*Alpinia galanga*, lengkuas), long zedoary(*Curcuma zedoaria*, temu kuning), ginkgo(pak ko), balsam, lesser galanga (*Kaempferia galanga*, cekur), bitter gourds big or small, selom (Oenanthe Javanica), keladi air (Ottelia alismoides), raddish (lobar), nightshade (Solanum nigrum, ranti), nona (*Annona reticulate*, jantong lembu), lalang (Imperata cylindrical), nutmeg(Myristica fragrant, for cervical and skin cancer), senahon(Polygonum hydropiper), drink lots of water, some light tea without milk, fresh fruit juices.

Foods to avoid

Food avoidance is similarly widely practiced among Asians and this is also very evident among Malaysians who still hold no to traditional beliefs. Even in modern sciences in the fields of nutrition and diet, food avoidance or compatibility is established. Thus food avoidance is practiced traditionally as well as among those who follow the principles of diet and nutrition for the well being of the body. Food considered bad for cancer is to be avoided completely for those who already have cancer. For others such food should also be avoided if possible or consumption of such food kept to a minimum and should not be taken regularly to reduce the chance of getting cancer. In the case of cancer, the list of food to be avoided are as follows:

Beef, muffin, eggs, prawns, crabs, squids, cuttlefish, cockles and most other shellfish, duck, various fishes such as kembong(*Somber* spp.), ray fish(*Dasyatis kuhli, D. stephen, Rhinoptera javanica, Tempera hardwickii*, etc.), terubok fish(*Aloha macrura, Clupea macrura, C.sinensis*), sharks(*Carcharias dussumieri, Cheiloscyllium, Narke dypterygia, Pristis cuspidatus, Sphyrna blochii, S.zygaena*, etc.), talang fish(*Chorinemus lysan, C.tol, C.sanctipetri*), canned food, food deep fried in oil, instant noodles. Burgers, sausages, preserved food, preserved fruits, salted food, dried food, dried fruits, butter, cheese, chocolates, sweets, aerated drinks, durian fruits(*Durio zibethinus*), macing fruits (*Mangifera*

foetida), green variety of bananas (*Musa acuminate*), jackfruits (*Artocarpus heterophyllous, nangka*), cempedak fruits (*Artocarpus integer*), banana flowers (*Musa* spp.), fern leaves (*Acrosticchum aureum, Athyrium esculentum, Blechnum orientate, Nephrolepis acutifolia, Stenochlaena palustris,* etc.), coconut(*Cocos nucifera*), avoid animal and plant fat, cigarettes, keep weight down, drink alcohol only in moderation.

Herbal prescriptions

Some herbal prescriptions specifically for treating cancer are given below:

Typhonium divaricatum extract juice mixed with honey, drink daily. Each dose per day is 50gm fresh weight. Whole plant is taken but if in short supply only the leaves are taken to ensure a continuous stock.

Livistona chinensis take 30gm of seeds cook with equal amount of lean pork for 1-2hours or boil 30 - 60gm of seeds and drink daily.

Acanthus ilicifolius(jeruju) plants near mangrove, thorny leaves like holly, take 30 - 120gm mix with 60 - 120gm lean porkand boil with 500gm water for at least six hours until one bowl of decoction remains. Take orally two doses per day.

Impatiens balsamina(balsam) take 15 - 60 gm of seeds, boil and drink.

Selaginella doederleinii, 50 - 100gm boil in water for 3-4hours. 60gm selaginella mixed with 60gm lean pork, some dates, boil in water.

Hedyotis corymbosa(small spreading herb with tiny leaves), 15-60gm as decoction. *H. diffusa, H. tenelliflora* can be used in place of the first species.

Cycas revolute leaves, use 30-60gm.

Curcuma zedoaria, dried roots and rhizome 5-10gm.

Solanum nigrum fresh or dried, use 10-30gm as decoction.

Other plants with *potential against* cancer: *Vitex trifolium*(seashore creeping woody shrubs), *Euphoria hirta*(small garden herb with latex), *Catharanthus rosea*(commonly called Madagascar periwinkle, shrubs with white or purplish pink flowers), *Tabernaemontana* spp.(forest plants, shrubs or small trees, sometimes planted in gardens, white flowers), *Wedelia biflora*(shrubs found in open places), *Emellia sonchifolia* (small herbs found in gardens and open places), *Gonioth-alamus giganteus*(forest trees besides streams), *Hibiscus rosa-sinensis*(white hibiscus, take roots and boil, drink daily), *Calendula officinalis* pot marigold, Vitis *quadrangularis* (climber with rectangular stems, taken for treating breast cancer).

Anticancer plant list

In the course of conducting research on plants taken to combat cancer, many species have been included in the list of plants known to be used against cancer. These are based on known uses and attributed properties, some have shown encouraging results in preliminary experiments and a few are already in allopatric use against cancer. Some of these plants are very poisonous in certain parts or all parts of the plant and therefore this list should not be taken as a personal guide for treatment of cancer. Expert traditional practitioners use only certain parts of each, follow certain procedures to prepare the herbs for use, know the correct doses and combinations and give specific instructions to buyers in the preparations of the herbal medicine.

This list of plants is arranged in alphabetical order of the species names with the family names given within brackets followed by the known area of distribution and usage in traditional medicine, as food or in drinks, with main focus on Asia and Southeast Asia.

Southeast Asia.

Abrus precatorius L.(Leguminosae) Asia
Acanthus ilicifolius L.(Acanthaceae) Asia
Ajuga decumbens thumb.(Labiate) East Asia
Albizia julibrissin Durazz.(Leguminosae) East Asia
Allamanda cathartica L.(Apocynaceae) Tropics
Allium sativum L.(Ijiliaceae) Global

Alpinia galanga (L.) Willd. (Zingiberaceae) Asia
Alstonia scholaris (L.) R.Br.(Apocynaceae) Tropical Asia
Amorphophallus riviera Dur. ex. Carr.(Araceae) East Asia
Anacardium occidental L.(Anacardiaceae) Tropics
Andrographis paniculata Nees(Acanthaceae) Tropics
Aneilema sinizum(Commelinaceae) East Asia
Annona reticulate L.(Annonaceae) Tropics
Annona squamosa L.(Annonaceae) Tropics
Aphanamixis polystachya Parker(Nel iaceae) Tropics
Argemone mexicans L.(Papave raceme) Tropics
Aristolochia tagala Cham.(Aristolochiaceae) Tropics
Bacopa monniera(L.) Pennell(Scrophulariaceae) Asia
Belamcanda chinensis(L.) DC. (Iridaceae) East Asia
Belamcanda ciliate(Saxifragaceae) East Asia
Betula latifolia Tausch(Betulaceae) East Asia
Betula platyphylla Sukatchev(Betulaceae) East Asia
var. latlFolla(Reg.) Nak.
Blumea balsamifera(L.) A.DC.(Compost tae) Asia
Brasenia schreberi J. F. Geml. (Nymphaeaceae) East Asia
Brassica oleracea L.(Cruciferae) Global
Calotropis gigantea(Willd.) Dryand. (Asclepiadaceae) Tropics
Calotropis procera(Willd.) Dryand. (Asclepiadaceae) Tropics
Camptotheca acuminate Decne.(Nyssaceae) East Asia
Canna indicia L.(Cannaceae) Trope cs, Sub-tropics
Cannabis saliva L.(Cannaceae) Trope cs, Sub-tropics
Carduus crisps L.(Composite) East Asia
Carina papaya L.(Caricaceae) Tropics
Cassia occidentalist L.(Leguminosae) Global
Catharanthus roses(L.) G. Don(Apocynaceae) Tropics
Cayratia japonica(Thumb.) Gagnep.(Vi.taceae) East Asia
Cedrus deodar(Pinaceae) Temperate
Cheldidonium magus L.(Papaveraceae) East Asia
Clematis chinensis Osbeck.(Ranunculaceae) East Asia
Clinacanthus siamensis(Acanthaceae) Asia
Cocculus pendulous(Menispermaceae) Tropics
Codonopsis pilosula(French.) Nannfeldt.(Campanulaceae) Asia
Codonopsis tangshem Oliver(Campanulaceae) Asia
Coix lachrymal-jobs L.(Gramineae) Tropics, Sub-tropics
Corium maculatum L.(Umbelliferae) Asia
Corchorus aestuans L.(Tiliaceae) Tropics
Crotalaria assamica Benth.(Leguminosae) Asia
Crotalaria sessiliflora L.(Leguminosae) East Asia
Curcuma domestics Val.(Zingiberaceae) Asia
Curcuma zedoaria(Berg.) Rosc.(Zingiberaceae) Asia
Cycas revolute Thumb.(Cycadaceae) Asia
Cycles barbara Nies.(Nenispermaceae) Southeast Asia
Cyprus rotundas L.(Cype raceme) Tropics
Cyrtosperma lasioldes Griffith(Araceae) Asia
Datura metal L.(Solanaceae) Tropics
Dianthus chinensis L.(Caryophyllaceae) East Asia
Dianthus superbus L.(Caryophyllaceae) Temperate var. longlcalyclnus
Dichroa febrifuge Lour.(Saxifragaceae) Global
Dioscorea bulbifr L.(Dioscoreaceae) Asia
Dioscorea japonica Thumb.(Dioscoreaceae) East Asia
Dipsacus japonica Miq.(Dipsaceae) East Asia
Duchesnea indicia(Andr.) Focke(Rosaceae) East Asia
Elephantopus scaler L.(Composite) Tropics
Erythrina suberose Rob.(Leguminosae) Tropics
Erythrina variegate L. var. (Leguminose) Tropics, Sub-tropics orientalia(L4.) Merr.
Euphoria hirta L.(Euphorbiaceae) Tropics
Eurycoma longifolia Jack(Simaroubaceae) SE Asia
Ficus pumila L.(Moraceae) Asia
Forsythia suspensa Vahl.(Oleaceae) East Asia
Fritillaria cirrhosa D. Don.(Liaceae) East Asia
Fritillaria thunbergii Miq.(Liaceae) East Asia
Garclnia morello Desr.(Guttiferae) Sub-tropical Asia
Gaultheia fragrantissima Wall.(Ericaceae) Sub-tropical Asia
Ginkgo biloba L.(Ginkgoaceae) East Asia
Gleditsia sinensis Lamk.(IJeguminoseae) East Asia
Glycyrrhiza glabra L.(IJegumi novae) East Asia
Glycyrrhiza inflate Batalin(Leguminosae) East Asia
Glycyrrhiza uralensis Fisch.(Leguminosae) East Asia

Gynandropsis pentaphylla DC.(Capparidaceae) Tropics
Hedyotis corymbosa(L.) Lambs.(Rubiaceae) Sub-tropics
Hedyotis diffusa Will.d.(Rubiaceae) Sub-tropics
Hedyotis tenelliflora Bl.(Rubiaceae) Sub-tropics
Hebiotropium indicium L.(Boraginaceae) East Asia
Hibiscus rosa-sinensis L.(Nalvaceae) Asia
Impatiens balsamina L.(Boraginaceae) Global
Imperata cylindrical Beaux.(Gramineae) Tropics
Kaempferia galanga L.(Zingiberaceae) Tropics
Kaempferia rotunda L. (Zingiberaceae) Global
Leonurus artemisia(Lour.) S.Y.Hu(Labiate) East Asia
Liquidambar formosan hence(hamate lidaceae) East Asia
Livistona chinensis R. Br.(Palmate) Tropics, Sub-tropics
Lonicera japonica Thumb.(Caprifoliaceae) East Asia
*Ludwigia hyssopifolia(*D. Don) Exell(Onagraceae) Asia
Macleaya cordate(Willd) R. Br.(Papaveraceae) East Asia
Melia azedarach L.(Meliaceae) Tropics
Mezzettia leptopoda(Hk. f. et Thomas.) Olive.(Annonaceae) Asia
Monordica charantia L.(Cucurbitaceae) Global
M. cochinchinensis(Lour.) Sprang(Cucurgitaceae) Global
Miring oleifera Lam.(Moringaceae) Tropics
Musa paradisiacal L.(Musaceae) Tropics
Mussaenda hainanensis Nerr.(Rubiaceae) East Asia
Myristica fragrant Houtt.(Nyristjcaceae) Asia, Pacifics
Ochrosia oppositifolia K. Scum.(Apocynaceae) SE Asia, Pacifics
Oenanthe javanica (Bl.) DC.(Umbelliferae) Asia
Ophiorrhiza mangos L.(Rubiaceae) Asia
Ottelia alismoides Pers.(Hydrocharitaceae) Asia
Phaseolus radiates L.(Leguminosae) Global
Phryma leptostachya L.(Phrymaceae) East Asia
Picrasma javaniva Bl.(Simaroubaceae) Asia
Pittosporum ferrugineum Ait(Pittosporaceae) SE Asia
Ploiarium alternifolium(Vahl) Melch.(Theaceae) SE Asia
Polygala chinensis(PolygalaceaeO East Asia
Polygonum hidropiper L.(Polygonaceae) Asia
Prunella vulgaris L.(Labiate) East Asia
Pteridium aquilinum(L.) Kahn. (Polypodiaceae) Sub-tropics var. wightianum(Agardh.) Tyrol
P.esculentum(Forst) Nakai (Polypodiacae) Tropics, sub-tropics
Pyrrosia lingua(Thumb.) Farewell(Polypodiacae) East Asia
Quassia indicia(Gaertn.) Noot. (Simaroubaceae) Tropics
Ranunculus acrid L.(Ranunculaceae) East Asia
Raphidophora korthalsii Scott. (Arac(fae) Tropics
Raphanus sativus L.(Cruciferae) Global
Rauwolfia serpentine Benth.(Apocynaceae) Tropics
Salix purpura L.(Salicaceae) East Asia
Sarcandra glabra (Thumb.) Nakai(Chloranthaceae) East
Scrophularia buergeriana Miq.(Scrophulariaceae) East
Scurrula parasitic L.(Loranthaceae) East Asia
Scutellaria baicalensis Georgi.(Lagjatae) East Asia
Scutellaria barbara Don(Labiate) East Asia
Scutellaria doederleinii Heron(Selaginellaceae) East
Serissa japinica (Thumb.) Thumb. (Rubiaceae) Asia
Silence africa Turcz. (Caryophyllaceae) East Asia
Smilax china L.(Liliaceae) East Asia
Smilax corbularia Kunth.(Liliaceae) SE Asia
Solanum nigrum L.(Solanaceae) Tropics, Sub-tropics
Solanum verbascifolium L.(Solanaceae) East Asia
Stellaria aquatic Scop.(Caryophyllaceae) East Asia
Taraxacum offcinale Weber(Composite) Temperate
Tetragonia tetragonoides(Pallas) O.Ktze.(Aizoaceae) Global
Tinospora crisps(L.) Milers. (Menispermaceae) SE Asia
Trachelospermum jasminoides(Lindl.) Lem.(Apocynaceae) East Asia
Typhonium divaricatum(L.) Decne(Araceae) Asia
Viola patrinii DC.(Violaceae) East Asia
Viola Pinnata L.(Violaceae) East Asia
Viscus album L.(Violaceae) East Asia
Vitex trifolia L.(Verbenaceae) East Asia
var. ovate Mak
var. unifoliate Schauer
Vitis labrusca L.(Vitaceae) East Asia
Xylopia caudata Hk. f.(Annonaceae) SE Asia

Testimonials for *Typhonium divaricatum*(Araceae)

At the very forefront of anti-cancer therapy practiced among the lay people of Malaysia presently is the consumption of fresh plants of *Typhonium divaricatum* which goes by a Chinese name which can be

translated as rodent tuber. It is sold fresh in some towns and cities in the Northern part of peninsular Malaysia where the utilisation of this plant is more widespread. Testimonies regarding the efficacy of this plant is circulated to the public quoting medical physicians, teachers and scientists. Preliminary result, from research conducted in universities in Malaysia and Singapore have shown that this plant holds potential for the treatment of cancer.

Many cancer patients who have been medically considered hopeless and incurable have tried this plant and some have claimed success. The whole plant(leaves, tubers and roots) is pounded and the liquid extracted through a piece of cloth. Rubber gloves should be won as oxalic acid crystals in the plant will cause severe irritation and inflammation of the skin. the extract is mixed with honey and drunk immediately. Intense pruritus and dermatitis can occur when the extract comes in contact with skin and mucous membrane. This can be treated by rinsing the affected parts with sugar cubes. There may also be pruning or vomiting, throat irritation or swollen lips. The side effects diminish in the corpse of treatment with continued exposure. After three or four days of taking this plant, the fasces will be black and smelly, believed to be due to toxins being expelled from the body. Initially it is taken three times per day. If the patient improves, the dose is reduced gradually until a dose of twice a week is maintained indefinitely. The extract can be taken as the sole therapy or together with radiotherapy or chemotherapy. the plant tasted bitter and is slightly toxic. At the same time, it is said to detoxify the body, reduce swellings, get rid of boils and pus, stop bleeding, ease pain and is effective against lymphatic problems. Testimonials of recovery from serious conditions of cancers includes cancers of the liver, pancreas, intestines, nose, throat, lymphs. There are cases of cancer patients at the last stages of the disease recovering fully with the cancer going into remission and being not traceable but there are also many who could not be saved. There are no statistical compilations for reference. Discontinuation of the herbal therapy is said to be cone cause for remission and death. Non observance of food avoidance and not taking food attributed with anticancer qualities are also causes of failure. Lastly, there are patients who simply do not respond to the therapy.

General Discussions and Conclusions

The battle against cancer continues on many fronts, the physicians, nutritonists, dieticians, pharmacologists, biochemists, chemists, botanists, zoologists, ethnobotanists, sociologists, herbalists and other practitioners of traditional medicine as well as the lay people. There has been some successes on all fronts but the fight goes on as the search for cures continues. Chemical compounds from plants is the main focal point, whether the plants are consumed as food, drinks, herbal medicine, crude extracts, pure phytochemical compound, partially or fully synthetic compounds which are also based on the chemical structures of new phytochemical compounds. Another front is on the human body as geneticists search for the faulty genes that increases a person' s susceptibility to cancer. Improving a person' s health and life style, eating, drinking and living habits also form a possible defense against cancer. The diversity of plants and the myriad of chemical compounds they produce may be a major key towards finding cures for this dreaded disease.

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