



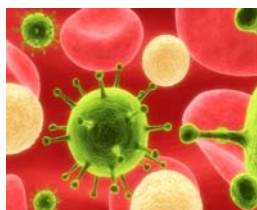
CarciKnow News

the voice of Carcinogenesis foundation



February 2009

The united world in the Crusade Against Cancer



Unruly cancer Cells Lurk and evade detection

Each year, approximately 7 million people die from cancer worldwide and close to 11 million new cases are diagnosed. In 2005, the UICC launched a World Cancer Campaign, including World Cancer Day, in response to the Charter of Paris, adopted on February 4, 2000 during the World Summit Against Cancer in the New Millennium. The objectives of the World Cancer Campaign and

World Cancer Day are to raise awareness of the impact of cancer, increase understanding of the solutions that exist, translate knowledge into action, generate a movement that stimulates collective responsibility and action. Cancer-free world is possible through Research, Awareness, Care and Education - RACE. Carcinogenesis Foundation strives to understand the cancer causing processes. Most cancers are not hereditary but acquired during ones lifetime and therefore preventable. It is critical that we know what causes cancers in humans in order to be able to prevent them. Several factors like diet, exercise, environment and genetic background play a key role in developing cancers.

CF supports the International

Union Against Cancer (UICC) in recognizing February 4 as World Cancer Day.

Forthcoming Events of the Foundation

Carcinogenesis foundation, in collaboration with Reading Medical Center, is organizing a Medical Education conference entitled "[Frontiers in Carcinogenesis and Cancer prevention](#)" On April 24, 2009. For further details please email editor@carcinogenesis.com or visit http://carcinogenesis.com/downloads/carcinogenesis_conf.pdf

Special points of interest:

- OVERWEIGHT AND OBESITY ARE RISK FACTORS OF CANCER
- SHUN FOOD LACED WITH CARCINOGENS
- WORLD CANCER DAY AND WORLD CANCER CAMPAIGN

Cancer from Prehistory to History

80 million years ago

Scanning about 10,000 specimens of dinosaur fossils, a US-based team of researchers has stumbled upon signs of tumors in duck-billed dinosaurs that roamed the earth about 70-80 million years ago. The tumors included hemangiomas, osteoblastoma

and metastatic cancer. The tumors may have been triggered by a genetic propensity or environmental mutagens.

5000 years ago

Evidence of cancer was found in Egyptian mummies. Meticulous scientific analysis

of mummies through X-rays, CT scans, and endoscopy unveiled many secrets. In addition to other diseases, lung cancer was found in mummies.

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Know the Enemies Before They Invade



Consumption of alcohol is a potential risk factor for cancer

Cancer claimed 7.6 million lives in 2005 and 84 million people will die in the next 10 years. Resorting to four basic components of cancer control – prevention, early detection, diagnosis and treatment can help avert such a grim future. For low- and middle-income countries, detection, diagnosis and treatment are costly affairs. But, cancer prevention is a better option. About 40 per cent of all cancer deaths can be prevented. For this, we need to identify cancer

risk factors. Tobacco, alcohol, low fruit and vegetable intake, physical inactivity, overweight and obesity are key risk factors. Other important cancer risk factors are physical carcinogens, such as ultraviolet (UV) and ionizing radiation; chemical carcinogens, such as benzo(a)pyrene, formaldehyde and aflatoxins (food contaminants), and fibers such as asbestos; biological carcinogens, such as infections by viruses, bacteria and parasites. Every year to-

bacco use causes 1.5 million cancer deaths. Overweight, obesity and physical inactivity together lead to 274,000 cancer deaths. Sexually transmitted human papilloma virus (HPV) infection is responsible for 235,000 cancer deaths. Removing the aforesaid risk factors can prevent about 2 million deaths every year.

THE WORLD HEALTH ORGANIZATION ESTIMATES ABOUT 1 BILLION ADULTS ARE OVERWEIGHT AND 300 MILLION OF THESE ARE OBESE. OBESITY INCREASES THE RISK OF CANCER

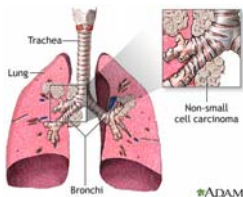
Watch your weight—World Cancer Day's-Motto

With about 7 million deaths and close to 11 million new cases diagnosed every year, cancer is a growing threat worldwide. Overweight or obesity increases the risk of cancer in later life. According to The International Obesity Task Force, one out of every ten school-age children is overweight. Of these, around 30-45 million children, that is 2-3 percent of children aged

5-17, are obese. According to the World Health Organization, 1 billion adults are overweight, and at least 300 million of these are clinically obese. This led the International Union Against Cancer (UICC) to launch a year-long cancer prevention campaign on February 4 celebrated as World Cancer Day since 2005 in response to the Charter of Paris adopted on February 4,

2000 during the World Summit Against Cancer in the New Millennium. This year's World Cancer Day's theme is - 'I love my healthy childhood'.

Common Food Additive Linked to Lung Cancer



Lung cancer can be devastating

Diet high in inorganic phosphates, which are found in a variety of processed food including meats, beverages, and bakery products, might accelerate growth of lung cancer tumors. Animal model shows that inorganic phosphates may even aid in the initiation of lung tumours in individuals who are susceptible to the

disease. The study will be helpful in making dietary regulation of inorganic phosphates. This will play an important role in lung cancer treatment, claims the study which appears in the first issue for January of the *American Journal of Respiratory and Critical Care Medicine*. Lung cancer is the leading

cause of cancer deaths in the world. So, the study is significant as it points to a preventive measure against lung cancer through dietary regulation of inorganic phosphates.

Nature's clues to Cancer metastasis

Stephen Paget was an assistant surgeon at the West London hospital. What set him apart was his out of the box thinking ability. He lived more than a hundred years ago and clearly he was ahead of his time. A pen, a handful of papers and his knowledge of natural phenomena fuelled him to publish a landmark hypothesis in 1889 in the prestigious medical journal *Lancet*. His proposal known as 'soil and seed' hypothesis of metastasis argues that the

distribution of metastases cannot be due to chance and spread to specific organs or the body.

His observations came from plant world. When a plant spread its seeds, its seeds are carried in all directions, but, the seeds grow only if they fall on suitable soil.

Paget analyzed 735 cases of fatal breast cancer. He discovered that metastases formed in liver more often than in any other organ. Spleen despite being exposed to similar

blood flows did not have cancer cells. But Paget's hypothesis remained in obscurity till 1980 when Ian Hart and Isaiah Fidler corroborated it in a study with mice.

In a humble confession, he wrote, "The best work in the pathology of cancer is now done by those who are studying the nature of the seed. They are like scientific botanists; and he who turns over the records of cases of cancer is only a ploughman."

The origin of the word *cancer* is credited to the Greek physician Hippocrates (460-370 B.C.), considered the "Father of Medicine." Hippocrates used the terms *carcinosis* and *carcinoma* to describe non-ulcer forming and ulcer-forming tumors. In Greek these words refer to a crab, most likely applied to the disease because the finger-like spreading projections from a cancer called to mind the shape of a crab.

Diets that promote carcinogenesis

Polyaromatic hydrocarbons (PAH) get into food through high temperature cooking or from contaminated environments and may cause cancer by inducing mutations in the DNA of human cells. Cycad plants are important food sources in tropical regions. Cycads contain cycasin and related azoxyglycosides that were found to cause liver and kidney tumors when fed to

rats.

Heterocyclic amines in cooked meats have been associated with stomach and other cancer formation. Aflatoxins and Ochratoxin A are natural toxins made by fungal food contaminants that also cause cancer in animals and humans.

Acrylamide (bread, rolls)—

rodent and human neurotoxin; rodent carcinogen

Aflatoxin (nuts)—mutagen and potent rodent carcinogen; also a human carcinogen

Psoralens (celery, parsley)—mutagens; rodent and human carcinogens.

HIGH TEMPERATURE COOKING AND COOKED MEAT PREDISPOSE ONE TO CANCER

Can Garlic Prevent Cancer?

Garlic is a vegetable (*Allium sativum*) that belongs to the *Allium* class of bulb-shaped plants, which also includes onions, chives, leeks, and scallions. Garlic adds flavour to recipes and is unique because of its high sulfur content. In addition to sulfur, garlic contains arginine, flavonoids and selenium, which

might have beneficial effects on health.

Population studies link between increased intake of garlic and reduced risk of certain cancers like stomach, colon, esophagus, pancreas and breast. Garlic may thwart the activity of cancer-causing substances, speed up DNA

repair, reduce unbridled cell growth and even cause death of cancer cells.

Garlic can aggravate stomach ulcers. So people who are prone to stomach ulcers should avoid garlic. People who are on HIV medication saquinavir should also skip garlic.



Delicacies with garlic may be a way out



Research-Awareness-Care-Education

CARCINOGENESIS FOUNDATION

<http://www.carciknowgenesis.org>

Carcinogenesis Foundation's Mission

The mission and activities of Carcinogenesis Foundation can be summarized by an acronym PRIME (Prevention-Research-Innovation-Medicine-Education). Prevention is the best medicine for any disease, especially cancer. CF believes that innovative research and development of medicinal agents coupled with education will be the key to the global vision of eradicating cancer incidence. The Foundation will catalyze and support innovations in carcinogenesis research and education.

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Green tea may protect against cancer

Photo source: www.xpatathens.com

Nutrients That May Prevent Cancer

Carcinogenesis is a multistep, multistage process and the progression from the pre-malignant growth to a clinical, symptomatic, and invasive stage may span 20 years or more. Recent experimental evidence indicates that dietary constituents, particularly phytochemicals and some minerals and vitamins, can modulate the complex multistep, multistage carcinogenesis process at the initiation, promotion, and progression phases of neoplasia. Burgeoning research shows that consumption of fruits and vegetables lowers the risk of gastrointestinal cancers (mouth and pharynx, esophagus, stomach,

and colorectal).

Genistein is a soy isoflavone. As dietary component, it has important role in reducing the incidence of breast and prostate cancers.

Curcumin (diferuloylmethane), a yellow pigment that is present in the rhizome of turmeric (*Curcuma longa* L.) is a natural product widely used as a spice in food. Curcumin has been shown to inhibit proliferation of a wide variety of tumor cells.

Epigallocatechin-3-Gallate is a green tea polyphenol.

Among the numerous polyphenols isolated from green tea, the catechin (-)-epigallocatechin-3-gallate (EGCG) predominates and is the main target of anticancer research.

Quercetin, a dietary flavonoid, is found in a broad range of fruits, vegetables and beverage such as tea and wine. Consumption of quercetin in onions and apples has been inversely associated with lung cancer risk in Hawaii population.