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Research Article

Relationship between Food Type and Increased Risk of Cancer

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Abstract

The type and nature of food affect the increase or decrease in the risk of developing cancerous tumors and the speed of their spread, as the type of food has a significant impact on increasing the risk of cancer.

About a third of deaths from cancer are attributed to tobacco use, high body mass index (BMI), alcohol use, low intake of fruits and vegetables, and lack of physical activity. Cancer-causing infections, such as hepatitis and HPV, are responsible for 30% of cancer cases in low- and lower-middle-income countries. It is common for late-stage cancer symptoms to be unavailable for diagnosis and treatment, especially in low- and middle-income countries. Universal treatment is reported to be available in more than 90% of high-income countries, but only less than 15% of low-income countries. In 2019, only 1 in 3 countries reported high-quality data on cancer rates. Cancer is a general term that includes a wide range of diseases that can affect any part of the body. Other terms used are malignant tumors and neoplasms. A hallmark of cancer is the rapid generation of abnormal cells that grow outside their usual boundaries and can then invade neighboring parts of the body and spread to other parts of the body. The last operation is called metastasis, and metastases are the most important cause of death from cancer. Currently, between 30% and 50% of cancer cases can be prevented by avoiding disease risk factors and implementing existing, evidence-based strategies for prevention. The burden of cancer can also be reduced by detecting the disease early and providing patients with adequate treatment and care, knowing that the chances of recovery from many types of cancer increase if they are diagnosed early and treated appropriately.

Key words: review; prevent cancer spread; cancerous materials; cancer food; chemical cancerous; compounds; tumor

Introduction

An international team led by researchers from the University of Cincinnati in the United States and the University of Keio and Hiroshima in Japan has reached an amazing result related to the mechanism of energy production for cancer cells, which helps tumors multiply and spread from one place to another. According to the study published in the journal Nature Cell Biology, the researchers' findings could lead to the development of new cancer treatments that would stop the growth of malignant tumors by cutting off the energy supply to their nuclei. Higher prevalence rates in many cancers are associated with higher levels of tRNA and tRNA. Although researchers are well aware of this, the underlying mechanisms linking this to tumor proliferation and proliferation are poorly understood. From the 1960s until now, scientists did not know how cancer nuclei help tumors spread. The new research explains important details about the way cancer derives its energy from the body, which is the energy that helps it spread, multiply, and move from one place to another. Cells contain several forms of energy molecules, such as "adenosine triphosphate (ATP), a nucleotide - a basic unit of DNA - in which energy is stored. This molecule regulates transport between cell membranes, speeds up chemical reactions aimed at cell division, and builds sugars needed for cells to function. Another molecule known as guanosine triphosphate (GTP), provides cells with the energy needed to make vital proteins. The study, conducted on experimental mice with glioblastomas, an aggressive type of tumor that can affect the brain or spinal cord, found that inhibiting the guanosine triphosphate pathway could extend the survival of mouse models of brain tumors of this type. A live. Like normal cells, a cancer cell consists of a nucleus containing a nucleolus, the nuclei producing ribosomes. However, the nucleus of cancer cells produces an enormous number of ribosomes, which work to produce more proteins, and the more ribosomes there are, the more proteins are produced, and thus the cells multiply excessively. The importance of the new study is that it revealed how the nuclei produce huge amounts of ribosomes in cancer cells, explaining that “the nuclei rapidly activate by devouring more and more guanosine triphosphate molecules, and also confirms that the levels of this molecule in cancer cells are very high. This means that cancer lives, multiplies, and penetrates our bodies because of that molecule." Guanosine triphosphate is involved in the conversion of chemical energy into specific biosynthetic pathways. It transduces and modulates signaling in various cellular

processes, including proliferation, differentiation, and activation of proteins. It also regulates programmed cell death, and has a major role in supplying the cell with the necessary energy. The researchers say they were surprised to discover that of all the types of energy cells use for growth, guanosine triphosphate plays the most important role in increasing the number of ribosomes associated with nucleoli in cancer cells, and that levels of this molecule are nearly twice as high in cancer cells. Not only did the study make that discovery, but it also revealed why levels of guanosine triphosphate were increased in cells; The researchers observed high levels of an enzyme called mono-IMMPDH inside cancer cells. The researchers said that the enzyme speeds up the production of guanosine triphosphate, which in turn drives the production of ribosomes that promote excessive cell division, causing cancer to spread. So we now have the following result: Cancer cells have high levels of an enzyme, and that results in increased levels of a molecule, the cancer cell eats up that molecule, the nucleolus expands, the cells spread, and the levels of the same enzyme increase again, which increases the levels of the molecule, and so on, in a vicious circle of hell, making cancer more aggressive and ferocious. Acho Sasaki, a professor of hematology and oncology at the University of Cincinnati, and a co-author of the study, told Al-Alam, "The work on the study took seven full years, and the results of the study reveal a specific energy pathway in gliomas, targeting that The pathway may suppress the overgrowth of brain gliomas, which are one of the most aggressive types of cancer." He added, "The discovery of this close and terrible relationship between the spread of cancer and the ingestion of guanosine triphosphate molecules will undoubtedly open the way for the development of new drugs that target this pathway, and these treatments will have the ability to starve cancer cells, and then provide an opportunity for the immune system to eliminate them." Sasaki does not know exactly whether these results apply to other types of cancer, but he expects that research on cancer metabolism is capable of revolutionizing therapies that would eliminate malignant cancers in the future, by targeting their only source of energy, which is the molecule. The so-called guanosine triphosphate, as described.

Effect of food type on malignant tumors:

The American Cancer Society has published lists of dietary risks and preventative factors for stomach cancer. Smoked foods, fish, salted meat, and pickled vegetables have been shown to increase the risk of stomach cancer. The nitrates and nitrites usually found in cured meats can be converted by some bacteria such as Helicobacter pylori into substances that cause stomach cancer in animals. On the other hand, eating vegetables and fruits that contain antioxidants such as vitamin C and vitamin A may reduce the risk of stomach cancer., Cancer diagnosed early is more likely to respond to treatment, which can increase survival and reduce morbidity, as well as the costs of expensive treatment. Significant improvements in the lives of cancer patients can be made by detecting the disease early and by avoiding delaying care. Canned and processed foods occupy a large space in the daily diet of families, because they have delicious flavors, most of which are easy and quick to prepare, and suit the fast pace of working life. But experts point out that these foods cause some serious health risks, especially increasing the chances of developing a number of cancerous diseases., A scientific study held at the Paris-Sorbonne University, which included more than 10,000 participants, indicated that excessive consumption of canned and processed foods increases the risk of cancer, especially breast cancer. The study monitored the diet of these participants, taking into account their age, health status, and family history of cancer, and as a result, the researchers concluded that for every 10% increase in consumption of processed foods, the result was an increase in cancer incidence by 12%.

Sodas: Not only does soda contain sugar, which is the preferred cancer fuel, but it also has a caramel color. This artificial coloring contains the cancer-causing chemical 4-MEI as a by-product, and lab tests show that 4-MEI appears in caramel-colored sodas.

Alternatives: Water is always best, but if you're really craving an amazingly sweet soda, choose a natural brand without the caramel color.

Grilled red meat: While grilled meat tastes good, the high temperatures used for cooking produce cancer-causing hydrocarbons and excessive consumption of red meat in general is believed to increase the risk of cancer.

Alternatives: Eat less red meat, cook it carefully, and choose organic beef, if possible.

Microwave: There's a triplet here - the butter flavor used in many brands of microwave popcorn contains diacetyl, which is a known toxic when cooked, and the perfluorooctanoic acid on the bags themselves is a carcinogen. Popcorn producers are not required to report whether their kernels are genetically modified. or not.

Canned Food, Especially Tomatoes: Canned foods are dangerous because the cans are lined with the chemical BPA, which is a known hormone disorder. Canned tomatoes are especially problematic because the acidity of these substances makes BPA seep into the food, and tomatoes in general are very healthy and it's the packaging that causes the problem.

Alternatives: Eat fresh or frozen produce.

Hydrogenated Oils: Vegetable oils are not extracted from their source naturally, but instead must undergo a chemical process and more chemicals are added to achieve the desired appearance and consistency of the product, resulting in an extremely high level of unhealthy omega-6 fats.

Alternatives: Choose olive, soy, or canola oil instead and these oils are naturally extracted.

Salmon: One of the healthiest proteins you can eat, farmed salmon are fed an unnatural diet full of chemicals, pesticides and antibiotics and are fatter than wild animals thus storing more of the bad stuff in their bodies.

Alternatives: Eat wild salmon or increase your diet with pure fish oil supplements. Artificial **Sweeteners:** Most artificial sweeteners are produced by a chemical process, and there is not enough data to consider them safe. Some studies suggest that artificial sweeteners cause the toxin DKP to build up in the body and possibly cause brain tumors. Alternatives: If you must use a sweetener, choose plant-based stevia and some recipes can also substitute for apples. The refining process strips all the nutritional value from the original wheat and what's worse, the flour is bleached with chlorine gas to achieve that attractive white color and the white flour is a carbohydrate that breaks down into simple sugar, the preferred fuel for cancer.

Alternatives: Choose unbleached whole wheat flour for your cooking, and read labels carefully to determine how much white stuff is in packaged products.

Fruits and vegetables are very healthy foods, but the pesticides you spray on them lose that

Alternatives: Buy organic as often as possible, and wash all produce carefully before eating.

Processed Meat : Often when processing it, huge amounts of salt are added to it as well as dangerous chemicals, especially nitrates and nitrites. The additives are meant to make food look nicer and last longer, but pose serious risks to your health. Alternatives: Eat the most fresh, organic meat and look for other products with minimal processing and no preservatives.

Potato Chips: They are a dangerous food for several reasons including that they are fried in trans fats, loaded with salt and many varieties also contain preservatives and artificial coloring. Alternatives: Air-dried popcorn, dried apples or banana chips.

Alcohol : Studies by the National Cancer Institute have shown a link between alcohol consumption and cancers of the head, neck, esophagus, liver, breast, and colon.

Refined Sugars: Worst foods as crab loves to feast on sugar. Alternatives: Always check the ingredients list when buying packaged foods and the sugar content will surprise you. Prefer to eat fruit instead of sweets.

Ghee: Margarine is made from hydrogenated vegetable oils and is full of unsaturated fats, and recent studies indicate that trans fats are more dangerous than the saturated fats found in butter. Alternatives: Herb-flavored olive oil is best.

Diet food : You think it's best to buy diet foods, but in reality these products are often full of extra sugar or artificial sweeteners to replace any fat that's been removed and may also contain many chemicals designed to get you hooked and coming back for more. Alternatives: Eat fresh, whole foods rather than packaged diet meals.

Fried Potato : It tastes good but being fried in trans fats and then heavily salted makes it a real cancer risk and foods heated to a high temperature produce acrylamide, a known carcinogen found in cigarette smoke.

Alternatives: Check out some baked potato recipes using delicious seasonings and olive oil and you've got a healthier and tastier potato dish. Cancer arises from the transformation of normal cells into neoplastic ones in a multistage process that generally progresses from a precancerous lesion to a malignant tumor. These changes are caused by the interaction between a person's genetic factors and three categories of external factors, including the following:

physical carcinogens, such as ultraviolet and ionizing radiation; chemical carcinogens, such as asbestos, components of tobacco smoke, aflatoxin (a food pollutant) and arsenic (a pollutant in drinking water); Biological carcinogens, such as infections caused by certain viruses, bacteria or parasites. The World Health Organization (WHO) classifies carcinogens through its agency for research on cancer, the International Agency for Research on Cancer. The incidence of cancer rises sharply with age, likely due to the accumulation of risks of developing certain types of cancer, which increase with age. The accumulation of cancer risk is associated with a tendency for the effectiveness of cell repair mechanisms to decline as a person gets older. Tobacco and alcohol use, an unhealthy diet, lack of physical activity, and air pollution are major risk factors for cancer (and other non-communicable diseases).

The effect of canned food on cancerous tumors:

The study also indicated that the higher the level of treatment, the higher the risk of cancer. Frozen vegetables, for example, are less strongly associated with cancer than canned vegetables, and the more preservatives are used in types of foods, and the addition of hydrogenated oils, the more severe the harm caused by these foods becomes. Hence, the study concluded by advising consumers to eat fresh foods prepared at home, and to stay away as much as possible from all kinds of canned and processed foods to prevent serious diseases that can cause them. Therefore, doctors advise to adopt a diet based on fresh foods prepared at home, and to avoid all types of processed and canned foods. Many of the foods that we rely on for our food are canned, which saves us time during their preparation, and many of us take into account the validity period of these cans so as not to cause health damage when eating them. Recent studies have proven that in these canned foods there are many risks and possibilities of serious diseases, such as cancer, not due to the food but to the package itself, according to the "Health-line" medical website. Processed foods are heat or chemically processed, added to sugars and saturated fats, then wrapped in nylon or plastic, or placed in metal cans, and consumed as ready or instant foods. Researchers who conducted a large study conducted at the Sorbonne University in Paris, and included more than 10 thousand people, warned that excessive intake of industrially processed foods leads to an increased risk of cancer, especially breast cancer. The researchers observed the diet followed by the people who were studied, taking into account their age, health status, and family history of cancer. The researchers concluded that for each 10% increase in the consumption of processed foods, the result was an increase in cancer incidence by 12%. The results of the study indicated that the more industrially processed foods, the greater the risk of cancer. For example, the relationship of frozen vegetables and unwrapped bread to cancer is less severe than that of canned foods, processed meat, and hydrogenated oils. The higher the percentage of processing, the greater the harm. After the results came, doctors advise to adopt a diet based on fresh foods that are prepared at home, and to avoid all kinds of processed and canned foods. An environmental organization tested several cans of preserved food sold by Canadian and US retailers, and the results showed that most canned foods contain the toxic substance BPA, and the rest contain alternatives to this toxic chemical, but contain carcinogens. The report, issued by the Environmental Defense organization, indicated that environmental defenders bought 192 packages of various canned food products belonging to many companies, and found that the majority of the packages contain toxic bisphenol, known for its acronym “BPA”, at a rate of 67%, which is a substance A plastic chemical used in the manufacture of plastic cans for drinks and food, and baby feeding bottles, to prevent the proliferation of bacteria that cause food poisoning. But this substance, once it enters the body, is transformed into a hormone-like substance, such as estrogen, and a small amount of this substance causes many health damages to children and adults alike. Among the damages caused by this substance are hyperactivity, attention disorders, changes in the immune system and the brain, an increase in the risk of prostate and breast cancer, type 2 diabetes, obesity, asthma and infertility. The report pointed out that the food preserved, free of the toxic substance BPA, uses a polymer that is based on polyvinyl chloride or acrylic polystyrene, and both materials contain elements known or suspected to cause cancer, according to the “Inhabitit” website. The report concluded with the recommendation of consumers to replace canned vegetables with fresh or frozen, canned fruits with fresh or dried, and plastic canned tomato paste with carton and glass ones, to reduce the risks of toxic and carcinogenic substances.

Foods that prevent the growth of cancer cells in the body:

If smoking, hormonal disorders, and genes are among the most important causes of cancer, doctors have discovered that some foods help fight cancerous tumors in the body. For example:

1- Tomatoes: The benefits of tomatoes are many, as they contain lycopene, which contributes to fighting cardiovascular diseases. But it also contains antioxidants and contributes to fighting cancer cells. According to Harvard University in the United States in a study from 1999, tomatoes reduce the risk of prostate cancer by about 30 percent, provided you eat dishes rich in tomatoes daily.

2- High-fiber materials: It is recommended to eat materials rich in fiber, especially to reduce the risk of breast cancer, in exchange for staying away from sugars. According to a recent American study, eating 10 grams of oats or other daily, is enough to reduce the risk of developing breast or pharyngeal cancer by seven percent.

3- Strawberries: These fruits suppress the growth of tumors; thanks to the huge amounts of glycoside and antioxidants they contain. Several

studies have shown that 15 tablets per day are able to help fight breast and esophageal cancer.

4- Green vegetables: including salads, green cabbage, broccoli, and others. Especially broccoli, doctors say it eliminates the carcinogens that red meat contains.

5- Acids: Acids, in turn, help stop the growth of tumors. It is recommended to drink citrus juice daily, provided that it is natural and unprepared juices. The citrus peel is also very useful for reducing toxins in the body, but it must be noted that this peel is natural and free from toxic substances and pesticides that may be used in fruit cultivation.

6- Walnuts: Walnuts are particularly rich in a vitamin E called gamma-tocopherol that is known to block the signaling pathway of a protein enzyme called Akt. This enzyme is responsible for regulating metabolism and cell survival. It also attacks and destroys cancer cells, for example blocking estrogen receptors and thus prevents breast cancer.

7- Fish: Fish is healthy because it contains omega-3 fatty acids and vitamin D. Salmon and herring are described as vitamin bombs. An American study examined about 48,000 men over a 12-year period. Those who ate fish — preferably salmon — more than three times a week were 40 percent less likely to develop advanced prostate cancer. In women, eating fish is said to cut the risk of breast cancer by nearly half.

8- Not to Excessive Salt: Eating large amounts of salt increases the proportion of sodium in the body, which is a risk factor for stomach cancer. According to an American study, 1.6 million people died worldwide from eating too much salt. Therefore, it is recommended to consume as much as two grams of sodium per day. Otherwise, it will increase the risk of tumors in the gastrointestinal tract

Some infections turn into malignant tumors:

There are some chronic infections that are risk factors for developing cancer; It is a particularly prominent problem in low- and middle-income countries. About 13% of cancers diagnosed worldwide in 2018 were caused by carcinogens, including Helicobacter pylori, human papillomavirus, hepatitis B and C viruses and Epstein-Barr virus. Hepatitis B and C viruses and some types of HPV increase the risk of developing liver and cervical cancer, respectively, while HIV infection significantly increases the risk of other types of cancer, such as cervical cancer. The main environmental factor that is directly related to breast cancer is nuclear radiation. Epidemiological studies have shown that women exposed to radiation due to nuclear war, during diagnostic and therapeutic procedures, have an increased risk of breast cancer. Also, radiotherapy for malignant tumors on the chest, especially lymphoma (Hodgkin's disease) and thyroid cancer, is associated with an increased risk of breast cancer, and exposure to this radiation after the age of 40 leads to a small increase in the risk, while exposure to radiation is associated in Adolescence has a higher risk of developing breast cancer.

Conclusion

The symptoms of food-related malignancies are often vague and unclear, which may lead to late diagnosis of the disease and cause its spread and make the expectation of recovery poor. Some describe it as stomach ulcer complaints, but it differs that the patient suffers from it suddenly and for the first time after the age of forty, unlike the case with ulcers. Stomach cancer is often asymptomatic (the absence of symptoms) or may cause nonspecific symptoms (symptoms that may or may not be related to stomach cancer related disorders) in the early stages, and when symptoms do develop, the cancer is often advanced. or metastasis (metastasized to other parts of the body far from the tumor) and this is one of the main reasons for the relatively poor prognosis., Currently, between 30% and 50% of cancer cases can be prevented by avoiding disease risk factors and implementing existing, evidence-based strategies for prevention. The burden of cancer can also be reduced by detecting the disease early and providing patients with adequate treatment and care, knowing that the chances of recovery from many types of cancer increase if they are diagnosed early and treated appropriately. Finally, the word breast cancer is no longer as scary as it was before the use of modern medicine. Cancer patient is now undergoing detection and chemotherapy before the disaster of its spread. When noticing any lumps in the breast, it is necessary to go to the doctor for examination and conduct the necessary examination.

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