

“Nutrition and Cancer”

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The connection between nutrition and cancer, also which nutrients affect the quality of life and mutate genes resulting in malignant neoplasms or tumors.

The detail discussion on the connection between oncology patients and the nutritional intervention.

Recent Findings

- People with intra-abdominal obesity with the waist to hip ratio more than 1.0 are more prone for syndrome X which is a metabolic syndrome and it is characterize by glucose intolerance, insulin resistance, hypertension and hyperlipidemia. Conditions like these will result in the metabolic disturbance of various body organs which can be a contributing factor in the development of chronic degenerative disease.
- Carcinogenic substances such as Benzene, Abestos, and Isopropyl alcohol could result in genetic mutation.
- Individual with low nutritional value and with vitamin, mineral deficiency are more prone to Cancer.
- Patients with cancer are at nutritional risk so it is important for the nutritional intervention while undergoing a treatment.

Summary

In Cancer patient undergo various oncological therapies such as radiation therapy, surgery, immunotherapy, chemotherapy which may result in nutritional degradation, it may also result in malnourishment.

Cancer patients with high risk of malnourishment require nutritional screening, which can help us identify the need of more comprehensive nutrition assessment and nutrition care.

Anorexia , Dysphagia, nausea, vomiting, weight loss, xerostomia, nutritional complication due to surgery, fatigue are symptoms experience while undergoing oncological therapies.

Abstract

To create an understanding about the nutritional importance during oncological treatment, in prevention of cancer and also nutritional issues concern patients while undergoing oncological therapies and their measure.

Cancer treatments symptoms and nutritional management

- While undergoing radiation or chemotherapy, patient will experience pain, cytokines and depression there would be alteration in smell and taste and might also experience anorexia.
- In such condition avoid drinking fluids with meals, avoid low calorie fiber food and consume frequent nutrient dense meals.
- With antineoplastic therapies, symptoms of dysphagia will be experienced, it can be manage with consumption of pureed food, moist or thickened food, also try not to eat 1-2 hours before treatment.
- Treatments such as cytokines, antineo-plastic therapies will result in weight loss, patient should consume frequent, nutrient dense meals with adequate or high calorie and high protein intake.
- Surgical procedures in oncology patients can result in various nutritional issues that can be complex, nutrition during preoperative procedures and having an appropriate nutritional assessment will help in decreasing the progression of malnutrition.

- During surgery of GI tract, neck or head can result in various difficulties with the normal food intake, Parenteral and Enteral nutrition support the patients postoperative nutritional status, crucial nutritional intervention and follow up is required to prevent deterioration.
- Due to oncological therapies, requirement for protein increases as it is the most important factor in controlling the nitrogen imbalance.
- GI mucosa can get damaged with chemo therapeutic agents, which can result in diarrhea, dehydration can further result in dysgeusia, dysphagia, odynophagia, and fluid consumption should be increased gradually.

Phytochemicals and Antioxidants can potentially protect from cancer

In order to protect body cells from oxidative damage which are cause by free radicals it is important to have phytochemical and antioxidant rich food in balance to protect body from continuous damage by harmful substances.

They also inhibit cell proliferation, and also oncogene expression.

Higher intake of fruits and vegetables rich in phytochemicals can reduce the risk of cancer especially the epithelial cancers.

Terpenes act as an antioxidants, a-carotene help inhibit the tumor growth.

Phytochemical Sources

Lycopene is found in tomatoes and is two times more powerful B- carotene which help in the destruction of harmful free radicals.

Zeaxanthin help in reducing risk of breast and lung cancer.

Limonoids are found in citrus fruits like orange and grapes, its consumption detoxifies carcinogens, and it can reduce the possibility of stomach cancer.

Peanuts are rich in antioxidant flavonols.

Soybean, legumes has phytoestrogens that act as antioxidants and the carcinogenic process in the body and also act as a tumor suppressor, it is also more effective in controlling hormone related cancers such as prostate cancer and breast cancer.

A study conducted at Rutgers the USA, shows that certain vegetables like broccoli, cauliflower have sulphoraphane which may reduce the risk of hereditary cancers.

Indole-3-carbinol is a phytochemical which is dominantly found in cruciferous vegetables like broccoli, kale, cauliflower, they help in the prevention of breast, cervical and prostate cancer.

Insulin Resistance and Cancer

With Syndrome X due to intra-abdominal obesity, patient may develop insulin metabolism disorder which is a contributing factor in developing cancer in long run.

Consumption of high glycemic index food in combination with sedentary lifestyle with obesity can result in colon cancer.

High level of HDL rich food consumption can gradually protect an individual from all cancers.

Avoiding obesity, consumption of high fiber and adequate nutrient food with appropriate vitamin and mineral intake will lower the incidence of cancer and gradually will help in its prevention.

Isopropyl alcohol and cancer

Due to industrialization many food are genetically modified which are indirect carcinogenes.

Artificial flavor food, house cleaning agents, preservatives and various other products has this chemical present. It can lead to cancer only if it establish itself in liver, thus maturing the human liver fluke if it is present resulting in cancer.

Conclusion

Nutrition intervention is important while undergoing oncological treatment, but with an appropriate nutrient intake various cancer can be prevented.

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