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DEPARTMENT: MEDICINE AND SURGERY

LEVEL: 300

ASSIGNMENT

1. **Primary or simple obesity**

This kind of obesity is not associated with clinical manifestations of any sort. Primary or simple obesity is not associated with clinical disorders like congenital syndrome and drug therapy.

Primary or simple obesity is not based on genetic mutation but it is purely a nutritional disorder caused most likely by over eating, increased frequency of eating and inactivity.

1. **Effects of congenital syndrome**

The congenital syndrome is a metabolic syndrome. It is a combination of abdominal obesity, atherogenic dyslipidemia (hypertriglyceridemia and low HDL cholesterol), elevated blood pressure and elevated plasma glucose. The characteristic features are abdominal obesity, insulin resistance and decreased glucose tolerance. The body cannot properly use glucose even in presence of normal insulin level. In other words, body cannot use insulin efficiently. Therefore, metabolic syndrome is also called the insulin resistance syndrome.

People with metabolic syndrome are at increased risk of coronary heart disease and type 2 diabetes. The metabolic syndrome has become increasingly common in the developing countries. Abdominal obesity is the most prevalent manifestation of metabolic syndrome.

**Effects of drug therapy on obesity**

Drugs induced (like steroids, beta blockers, etc) can cause diabetes mellitus. Due to insulin resistance, diabetes mellitus leads to obesity.

A drug named Orlistat deactivates intestinal lipase and inhibits intestinal fat lipolysis. It is actually the only drug on the European market approved for the treatment of obesity. Orlistat therapy reduces weight to a modest extent, but it reduces the incidence of diabetes beyond the result achieved with lifestyle changes. Recently, some effective antiobesity drugs like sibutramine and rimonabant have been removed from the market due to their side effects.

1. **Aetiology of cancer**

All cancers are multifactorial in origin. They include genetic, hormonal, metabolic, physical, chemical and environmental factors. Most human cancers are spontaneous. All cancers originate usually from one aberrant cell, which goes on to multiply and produce a tumour mass. Thanks to the surveillance by the immune system, these aberrant cells are usually destroyed. As age advances, the number of mutations accumulate, hence the statistical probability of the incidence of cancer is increased. No wonder, cancer is a disease of old age especially after 60 years.

1. Mutagens

Any substance which increases the rate of mutation can also enhance the rate of incidence of cancer. Therefore, all carcinogens are mutagens. Examples are x-rays, gamma-rays, ultraviolet rays. Some human cancers are caused by chemicals. These may be introduced into the body by means of occupation (aniline, asbestos), diet (aflatoxins), or lifestyle (smoking). Chemical carcinogens act cumulatively. Tobacco, food additives, colouring agents, and aflatoxins are common carcinogens in our environment.

1. Aflatoxins

They are a group of chemically related compounds synthesized by the fungi, *aspergillus flavus*. The mould gros on rice, wheat and groundnut, when kept in damp conditions. The fungi may grow in cattle fodder, which may enter into human body through the cow’s milk. Aflatoxins are powerful carcinogens, which produce hepatomas.

1. Cigarette

Lung cancer is associated with the habit of cigarette smoking. Cigarette contains many carcinogens, the most important group being benzo(a)pyrenes. Other important deleterious substances in cigarette smoke are nicotine, carbon monoxide, nitrogen dioxide and carbon soot. Oral cancer is associated with chewing of tobacco.

1. Alcohol

Alcohol intake increases the risk of oral, pharyngeal, esophageal and liver cancers.

1. Diet high in total fat and cholesterol, increases the risk of colon, breast and prostate cancers.
2. Oncogenic viruses

Another aetiological factor of carcinogens is the integration of viral genes into the host DNA. Thus, the genes of the virus become part and parcel of the cellular DNA. The drive for multiplication by the viral genome overrules the regulatory checks and balances of the cellular mechanism. So, there is uncontrolled multiplication of the cells. This is called transformation by oncogenic virus.

1. Oncogenes

Oncogenes are normal constituents of cells. These are genes capable of causing cancer.