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BCH 308 ASSIGNMENT

1. Primary obesity or obesity is a chronic condition defined by an excess amount of body fat. A certain amount of body fat is necessary for storing energy, heat insulation, shock absorption, and other functions. Obesity is most commonly caused by a combination of [excessive food intake](/wiki/Gluttony%22%20%5Co%20%22Gluttony), lack of physical activity, and [genetic susceptibility](/wiki/Quantitative_trait_locus%22%20%5Co%20%22Quantitative%20trait%20locus). Primary obesity is that which is not caused by illness but by excessive intake of food and lack of exercise

2. **Drug Therapy**:

 Obesity is a chronic disease, and it requires chronic therapy. Hypertension, dyslipidemia, diabetes and cardiovascular diseases are leading causes of mortality in the modern world. All of them are strongly linked to obesity. While treating obesity, those conditions are also managed. Obese patients should always be treated through lifestyle interventions, though the results of such interventions are modest. Pharmacotherapy is a second step in the treatment of obesity, approved only when weight loss targets were not reached through lifestyle intervention. During the history of antiobesity drugs, many of them were withdrawn because of their side effects. Various guidelines recommend prescribing drug therapy for obesity through consideration of the potential benefits and limitations. 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. The new combination of topimarate and fentermine is approved in the US but not in Europe. The cost effectiveness of long-term pharmacotherapy of obesity is still an unresolved question.

**Congenital Syndrome**:

Constitutional obesity and mental retardation cooccur in several multiple congenital anomaly syndromes, including Prader-Willi syndrome, Bardet-Biedl syndrome, Cohen syndrome, Albright hereditary osteodystrophy, and Borjeson-Forssman-Lehmann syndrome as well as some rarer disorders. Although hypothalamic-pituitary axis abnormalities are thought to be a possible causative mechanism in some of these disorders, current knowledge is insufficient to explain the pathophysiologic mechanism of obesity in most multiple congenital anomaly/mental retardation syndromes. The chromosomal location of many of these syndromes is known, and studies are ongoing to identify the causative genes. Further delineation of the functions of the underlying genes will likely be instructive regarding mechanisms of appetite, satiety, and obesity in the general population. This review details current knowledge of the clinical and molecular genetic findings of multiple congenital anomaly/mental retardation syndromes associated with intrinsic obesity in an effort to delineate causative mechanisms and genetic abnormalities contributing to obesity.

3. Cancer is caused by accumulated damage to genes. Such changes may be due to chance or to exposure to a cancer causing substance.

The substances that cause cancer are called carcinogens. A carcinogen may be a chemical substance, such as certain molecules in tobacco smoke. The cause of cancer may be environmental agents, viral or genetic factors.

We should bear in mind, though, that in the majority of cancer cases we cannot attribute the disease to a single cause.

**Cancer risk factors are as follows:**

1. biological or internal factors, such as age, gender, inherited genetic defects and skin type
2. environmental exposure, for instance to radon and UV radiation, and fine particulate matter
3. occupational risk factors, including carcinogens such as many chemicals, radioactive materials and asbestos
4. lifestyle-related factors.

**Lifestyle-related factors that cause cancer include:**

* tobacco
* alcohol
* UV radiation in sunlight
* some food-related factors, such as nitrites and poly aromatic hydrocarbons generated by barbecuing food).

**Cancer causing factors related to work and living environments include:**

* asbestos fibres
* tar and pitch
* polynuclear hydrocarbons (e.g. benzopyrene)
* Some metal compounds
* Some plastic chemicals (e.g. Vinyl chloride)

**Bacteria and viruses can cause cancer:**

* Helicobacter pylori (H. pylori, which causes gastritis)
* HBV, HCV (hepatitis viruses that cause hepatitis)
* HPV (human papilloma virus, papilloma virus, which causes changes eg. Cervical cells)
* EBV (Epstein-Barr virus, the herpes virus that causes inflammation of the throat lymphoid)

**Radiation can cause cancer:**

* ionising radiation (e.g. X-ray radiation, soil radon)
* non-ionised radiation (the sun’s ultraviolet radiation)

**Some drugs may increase the risk of cancer:**

* certain antineoplastic agents
* certain hormones
* medicines that cause immune deficiency

In 5 – 10 per cent of breast cancer genetic predisposition plays an important role in the emergence of the disease.