Unit I – Problem 1 – Pharmacology: Principles of Management of Obesity



- There is no effective treatment for obesity \rightarrow it depends on your lifestyle.
- Types and severity of obesity:
 - Primary vs secondary.
 - Severity (based on BMI calculation):
 - ✓ <u>Overweight</u>: 25 29.9
 - ✓ <u>Mild obesity</u>: 30 34.9
 - $\checkmark \quad \underline{\text{Moderate obesity}}: 35 39.9$
 - ✓ <u>Severe obesity</u>: ≥ 40
- Body Mass Index (BMI) is used to indicate if someone is obese or not, but notice that it is not accurate (why?) → because in athletes there is excess muscle mass which will be represented with high BMI but this is not fat!
 - Other means which are used to diagnose obesity:
 - Measuring skin thickness.
 - Waist-to-hip ratio:
 - ✓ 1.0 in males.
 - ✓ 0.8 in females.
- **For overweight patients**: no drugs are needed, but if the patient suffers from other disease, then drugs will be indicated.
- Theraputic strategies for management of obesity:
 - Lifestyle modifications (the most important aspect!):
 - ✓ <u>Diet (decreasing energy/caloric intake)</u>: it must be balanced (e.g. no junk food).
 - ✓ <u>Physical activity (increasing energy expenditure)</u>: sedentary lifestyle must be discouraged.
 - Drug therapy.
 - Cognitive behavioral therapy.
 - Bariatric surgery.
- Appetite suppressants (anorexians):
 - They have a central action (e.g. acting in the brain).
 - **Mechanism of action**: modulating neurotransmitter function (mainly monoamines: serotonin, dopamine and norepinephrine).
 - They are amphetamine-related drugs:
 - ✓ Phentermine.
 - ✓ Fenfluramine: adverse reactions include cardiac vulvulopathy and pulmonary hypertension.
 - ✓ Dexfenfluramine.
 - ✓ SibutramineL increased blood pressure.
 - These drugs are no longer used because they are toxic and addictive.
- Drugs which are acting on the gastrointestinal tract:
 - **Examples**: orlistat and cetilistat.
 - Mechanism of action: lipase inhibitors
 - Adverse reactions include:
 - ✓ Interference with fat assimilation.
 - \checkmark Fat soluble vitamin malabsorption (fat-soluble vitamins are: A, D, K and E).
 - \checkmark Steatorrhea (e.g. fat in stool) and stool leakage.
- Drug misuse:

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- Many drugs are misused to promote weight loss. These drugs include thyroid hormones and diuretics.
- Drug-induced weight gain:
 - Corticosteroids, insulins, anabolic steroids, oral contraceptives, sulfonylureas, antipsychotics and antidepressants.