Adipose Tissue Dysregulation leads to Chronic Systemic Inflammation

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1. What Is Adipose Tissue and what is it composed of?

Adipose cells...

- Lipid molecule
- Mitochondria

Commonly known as fat tissue or just fat, adipose tissue is a connective tissue composed mostly of adipocytes.

In healthy weight individuals, adipose tissue consists of about 25% of total body weight. Small blood vessels, immune cells, extracellular matrix or ECM, and stromal cells are also found in adipose tissue.

2. What are the types of adipose tissue and where can they be found?

- White
- Brown
- Beige or Brite

There are three main types of adipose tissue:

- Brown adipose tissue:
  - Brown adipocytes
  - Brown fat cells
  - Brown fat granules

- Beige adipose tissue:
  - Beige adipocytes
  - Beige fat cells

- White adipose tissue:
  - White adipocytes
  - White fat cells

3. What is the normal function of adipose tissue?

- Cushion for organs, insulation, and storage unit

Recently discovered adipose tissue functions include:
- Hormone production
- Immune system activity
- Cellular proliferation
- Metabolic function

4. How does adipose tissue become dysregulated?

- Obesity

Leptin
Adiponectin

- Insulin Resistance
- Increased Inflammation
- Dyslipidemia
- Increased thrombosis
- Atherosclerosis
- Cellular Proliferation

Increased Risk of Chronic Disease
- Type II Diabetes
- CVD
- HTN
- Depression
- Arthritis
- Cancer

5. What are the consequences of adipose tissue dysregulation?

Consequences:
- Reference values for all ages, BMIs, and both sexes for leptin, adiponectin, and the leptin-to-adiponectin ratio.
- The extent to which the exact mechanisms that Covariates (e.g., estrogen, testosterone, medications, sex, and age) influence leptin and adiponectin production.
- If leptin and adiponectin levels correlate in different human biological substances (such as hair, urine, blood/serum, saliva).
- Optimal dose and duration of anti-inflammatory interventions (such as EPA-DHA) for improvement in leptin and adiponectin levels.

6. What are the future directions for research?

- For additional information or questions:
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