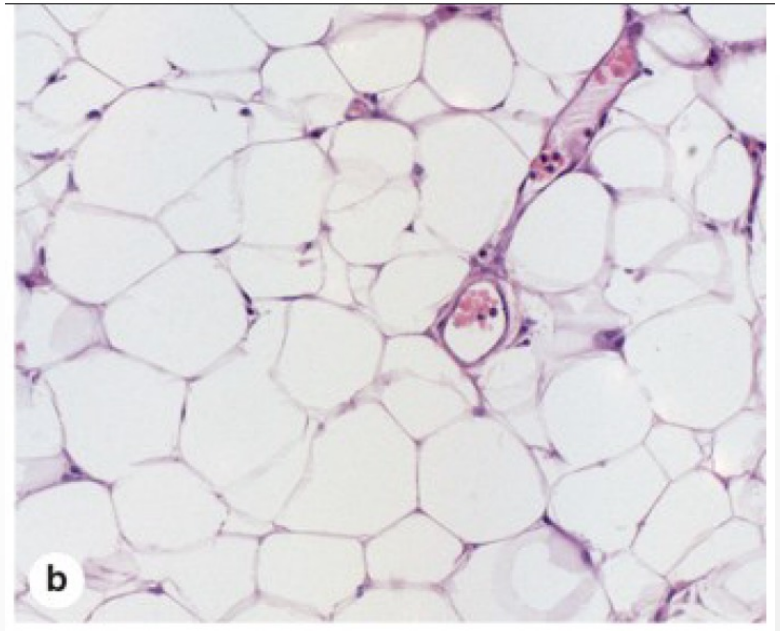
Adipose Connective Tissue

Adipose Tissue

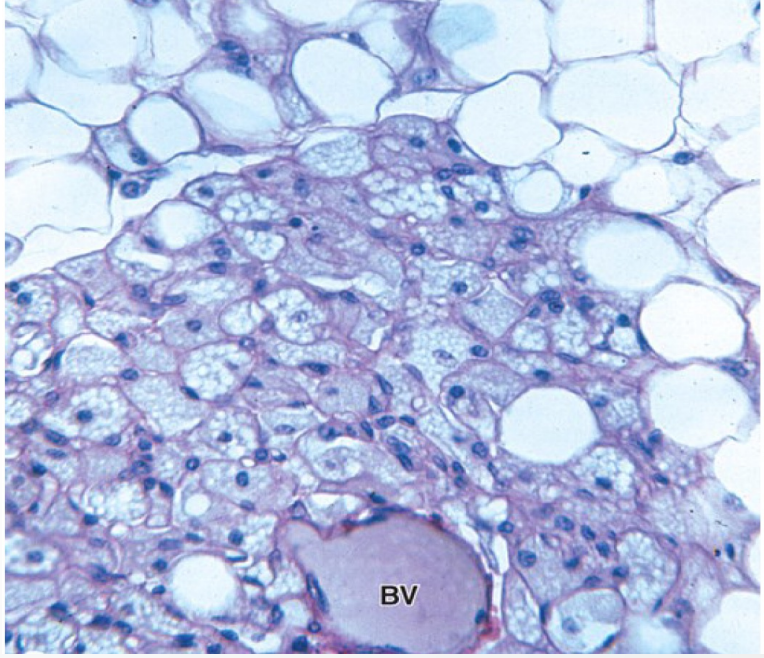
- Large cells found isolated or in small groups within loose or dense irregular connective tissue.
- Occur in large aggregates in adipose tissue
- Connective tissue in which fat-storing cells or adipocytes predominate.
- Represents 15%-20% of the body weight in men, more in women.
- Storage depots for Neutral fats, chiefly triglycerides
- White and brown adipose tissues are different in color, location, function, and structure.

White Adipose Tissue



- More common.
- Cells each containing one large cytoplasmic droplet.
- Long-term energy storage
- When completely developed, a white adipocyte is very large, between 50 and 150 umm in diameter… unilocular
- Signet-ring appearance.
- Lipomas !
- The distribution of white adipose tissue changes significantly through childhood and adult life.
- Adipocytes develop from mesenchymal stem cells.

Brown Adipose Tissue



- Constitutes 2%-5% of the newborn body weight
- Located mainly in the back, neck, and shoulders.
- In adults it is found only in scattered areas: around the kidneys, adrenal glands, aorta, and mediastinum.
- Color of brown fat: very abundant mitochondria and the large number of blood capillaries.
- Brown adipocytes contain many small lipid inclusions….Multilocular
- Tissue's principal function of heat production and warming the blood (thermogenesis).
- Cells of brown fat are smaller than white adipocytes….. nucleus is more centrally located.