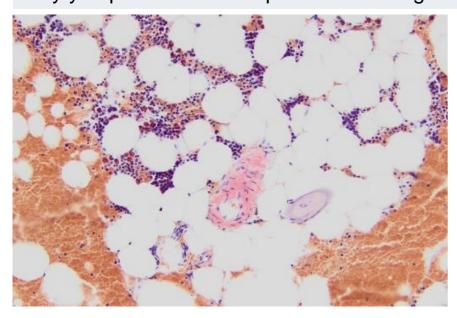
Bone

Prompt

May you please write a report for this image?



GPT-4V

Microscopic Image Report

Image Description:

The image displays a microscopic view of tissue sections, stained to reveal cellular and structural details.

Observations:

- 1. **Adipose Tissue**: There are multiple clear, round structures which represent adipose tissue or fat cells. These cells are identifiable by their large, clear, vacuolated appearance. The nuclei of these cells are pushed to the periphery due to the large fat droplet they contain.
- 2. **Other Cells**: Interspersed between the fat cells, there appear to be smaller cells with dense nuclei, possibly representing fibroblasts or other stromal cells.
- 3. **Staining**: The tissue appears to be stained with a standard Hematoxylin and Eosin (H&E) stain, judging from the blue-stained nuclei and the pinkish hue of the cytoplasm and extracellular matrix.
- 4. **Additional Structures**: In the lower-left corner, there is a portion of tissue that is more densely cellular and might represent another type of tissue, perhaps muscle or connective tissue, though further examination would be needed for a definitive conclusion.

Preliminary Interpretation:

The predominant feature in this image is adipose tissue, surrounded by some stromal elements. The exact type and purpose of the tissue section can be better discerned with additional clinical or experimental context.

Prompt

This is an image of bone marrow. What is most likely diagnostic result based on the image and report?

GPT-4V

Based on the image and the report, the prominent feature observed is adipose tissue within the bone marrow. Bone marrow contains both hematopoietic (blood-forming) tissue and stromal (supportive) tissue which includes fat cells.

In a typical adult bone marrow sample, the presence of adipose tissue is normal. However, the ratio of hematopoietic tissue to adipose tissue can vary depending on the age of the individual and the location from which the bone marrow sample was taken.

The increased prominence of adipose tissue at the expense of hematopoietic tissue can be suggestive of a few scenarios:

- 1. Age and Site-related Changes: It's normal for certain bones, especially those of the extremities in older adults, to have more fatty marrow.
- 2. **Bone Marrow Hypoplasia**: An abnormally low amount of hematopoietic tissue relative to fat might indicate marrow hypoplasia, a condition where the bone marrow doesn't produce enough blood cells.
- 3. **Recovery Phase**: After a condition or treatment that suppresses bone marrow function (like chemotherapy), the marrow might show an increased amount of fat as it begins to recover.
- 4. **Other Conditions**: Certain conditions like aplastic anemia, some types of leukemia, or after administration of certain medications can also lead to changes in the bone marrow's composition.

Reference answer

Plasma cell myeloma (multiple myeloma). Amyloid deposition associated a vessel in the bone marrow clot section of a patient with plasma cell myeloma stained with Congo red