Blood Picture – [Whole Blood EDTA] Analysis

Objective

The objective of this test is to perform a blood picture (peripheral blood smear examination) using EDTA-anticoagulated whole blood. The test helps evaluate red blood cell morphology, white blood cell distribution, and platelet count to aid in diagnosing anemia, infections, and hematological disorders.

Materials and Methods

Materials:
- Whole blood in EDTA anticoagulant
- Microscope slides and cover slips
- Wright's or Giemsa stain
- Light microscope and immersion oil

Methods:
1. Slide Preparation: Prepare a thin blood smear on a clean glass slide.
2. Staining: Fix smear and stain using Wright's or Giemsa stain for cell morphology evaluation.
3. Microscopic Examination: Examine red blood cells, white blood cells, and platelets for abnormalities in size, shape, and distribution.
4. Interpretation: Identify morphological features suggestive of anemia, infections, or hematological malignancies.
5. Quality Control: Ensure staining quality and smear uniformity for accurate results.

Results

- Normal: RBCs normocytic and normochromic; WBCs and platelets within normal morphology and count
- Abnormal: Findings may include microcytosis, macrocytosis, anisopoikilocytosis, leukocytosis, leukopenia, thrombocytopenia, or presence of abnormal cells (e.g., blasts, sickle cells)
- Correlation: Results should be interpreted along with CBC and clinical findings

Conclusion

Peripheral blood picture analysis is an essential diagnostic tool for evaluating hematological health. It provides detailed insights into cell morphology and, combined with CBC, aids in diagnosing anemia, infections, and bone marrow disorders.