

Pattern of General Blood Picture in a Tertiary Care Centre in Uttar Pradesh, India: A Retrospective Study of 190 Patients

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ABSTRACT:

Background: The general blood picture (GBP) is a critical diagnostic tool for assessing hematological health and detecting systemic diseases. **Objective:** To study the pattern of general blood picture findings among patients attending a tertiary care centre in Uttar Pradesh, India. **Methods:** This retrospective study analyzed 190 patients who underwent GBP examination from January 2023 to August 2025. Data were retrieved from laboratory records and analyzed for hematological parameters and morphological patterns. **Results:** Anemia (45.8%) was the most common abnormality, followed by leukocytosis (22.6%), thrombocytopenia (14.7%), and pancytopenia (6.3%). Normocytic normochromic anemia was the predominant type (38.9%), followed by microcytic hypochromic anemia (33.2%). Gender and age distribution indicated a higher prevalence of anemia among females and adults aged 21–40 years. **Conclusion:** The general blood picture remains a valuable screening test reflecting diverse systemic and hematological disorders. Regular hematological profiling aids in early diagnosis and management of underlying conditions.

Keywords: *general blood picture (GBP), hematological health, hematological parameters*

INTRODUCTION:

The general blood picture (GBP) provides a comprehensive overview of hematological parameters, offering crucial insights into bone marrow activity, nutritional status, and systemic disease manifestations. In India, anemia and infectious diseases contribute significantly to altered blood profiles, especially in low- and middle-income settings. The GBP serves as a primary screening tool in both outpatient and inpatient evaluations. Uttar Pradesh, being one of the most populous states in India, faces a high burden of hematological abnormalities due to nutritional deficiencies, infections, and chronic illnesses. Despite the clinical utility of GBP, there remains limited regional data on its pattern and prevalence. Hence, this retrospective study aims to analyze the distribution and morphological patterns of blood picture abnormalities

among patients at a tertiary care centre in Uttar Pradesh, India.

MATERIALS AND METHOD:

This retrospective observational study was conducted in the Department of Pathology, Tertiary Care Centre, Uttar Pradesh, India.

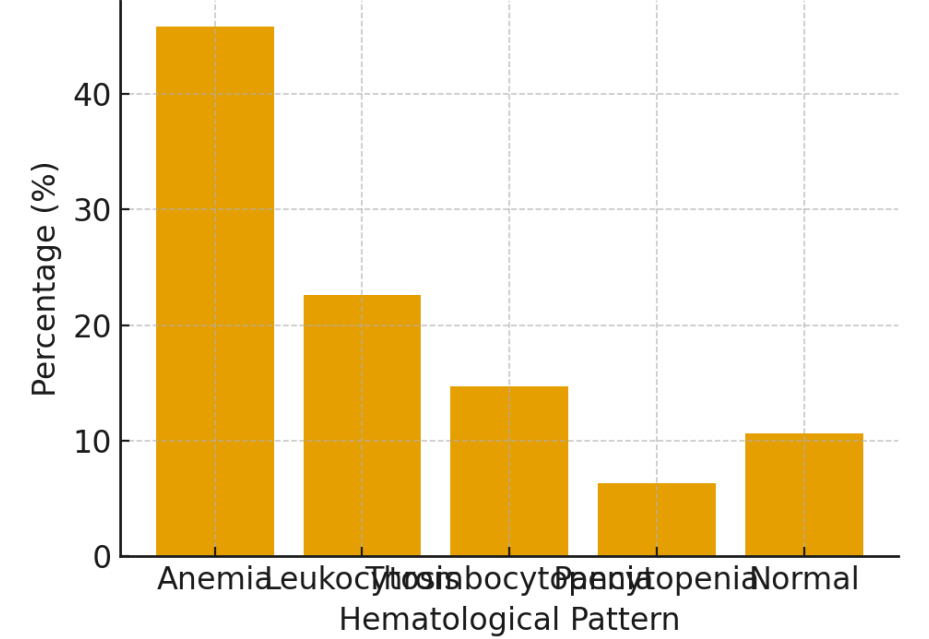
Data of 190 patients who underwent GBP examination between January 2023 and August 2025 were retrieved from hospital laboratory records.

Demographic data, hematological indices (Hb, RBC count, WBC count, platelet count, MCV, MCH, MCHC), and peripheral smear findings were analyzed.

Patients with incomplete records were excluded. Data were statistically analyzed using descriptive statistics, and results were represented in tables and charts.

RESULTS:

Distribution of Hematological Abnormalities (n=190)



Out of 190 patients, 87 (45.8%) showed anemia, 43 (22.6%) leukocytosis, 28 (14.7%) thrombocytopenia, and 12 (6.3%) pancytopenia. The remaining 20 (10.6%) had normal hematological findings. Among anemic patients, normocytic normochromic anemia (38.9%) was the most prevalent type, followed by microcytic hypochromic (33.2%) and macrocytic (8.4%) patterns. Females constituted 57% of the study population, with a higher prevalence of anemia compared to males. The most affected age group was 21–40 years (41%).

DISCUSSION:

The study revealed a predominance of anemia among the patients, aligning with findings from similar Indian studies where nutritional and infectious etiologies were prevalent. The high occurrence of normocytic normochromic anemia suggests chronic diseases and early stages of nutritional deficiency as major contributors. Leukocytosis and thrombocytopenia were frequent findings, commonly associated with infectious diseases prevalent in this region. Pancytopenia, though less frequent, indicated underlying marrow suppression or systemic illness. Our study’s findings reinforce the importance of GBP as a low-cost, rapid, and informative investigation that can direct clinicians toward further diagnostic workup. Regional variation in hematological abnormalities may reflect nutritional status, disease prevalence, and healthcare accessibility.

Limitations include the retrospective design and single-center setting. However, the study offers a valuable snapshot of hematological disease patterns in Northern India.

CONCLUSION:

Anemia remains the predominant hematological abnormality in this study population. The GBP continues to serve as an essential, cost-effective diagnostic tool for detecting early hematological and systemic diseases. Periodic blood picture analysis and nutritional interventions are essential for improving community health outcomes in Uttar Pradesh.

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