



STUDY ON CLINICO-HAEMATOLOGICAL PROFILE OF PATIENTS WITH PANCYTOPENIA AT TERTIARY CARE HOSPITAL, RIMS, RANCHI.

Medicine

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ABSTRACT

Background: Pancytopenia, an important haematological presentation is associated with different causes, which may vary in different regions. Jharkhand lacks studies of pancytopenia and the prevalent causes present in this region. Therefore, the present study was conducted to study the clinico-hematological profile of pancytopenia in a tertiary care center of Jharkhand, India. It was also intended to study if these causes showed any variation from other studies done in different regions of India.

Materials and Methods: The present study was conducted in a tertiary care institute situated in Jharkhand, state of India over a period of 1 year from July 2019 to July 2020. Our study included 65 patients and the age group of the patients range from 18 to 60 years. Of these 30 were females and 35 were males. The mean age of the patients is 37.12 years. Most male patients are under 30 years and females more than 40 years.

Results: Analysis of the information observed in our study has shown the etiological distribution of pancytopenia to be megaloblastic anaemia (25 cases; 38.46%), aplastic anaemia (16 cases; 24.62%), Hypersplenism (8 cases; 12.31%), Acute leukemias (6 cases; 9.23%), Myelodysplastic syndrome (4 cases; 6.15%), Connective tissue disorder (2 cases; 3.08%), Viral infection (2 cases; 3.08%), Myelofibrosis (1 case; 1.54%), and HIV infection (1 case; 1.54%).

Conclusion: The study concludes that megaloblastic anemia and aplastic anaemia are the most common cause of pancytopenia. The clinicians, especially the physicians practicing the primary care and pathologists, should be aware of the different causes of pancytopenia present in this region of India; therefore, delay in diagnosis can be prevented along with unnecessary investigations.

KEYWORDS

Acute leukemia, Aplastic anemia, megaloblastic anemia, pancytopenia.

INTRODUCTION

Knowledge of the common differential diagnoses of any clinical finding is helpful for the treating physician in its work-up. Pancytopenia is no exception, and awareness of common causes of pancytopenia helps the clinician in the requisition of relevant tests, which would avoid potentially uncomfortable and costly procedures. However, the causes of pancytopenia show a wide variation throughout the world, and there is a need for local knowledge of the causes of this condition.[1,2,3,4,5,6,7,8,9,10] The studies of pancytopenia from Jharkhand, India, are limited. In addition to clinical importance, the studies from this region may also vary from the rest of India due to geographical variation and, thus, may have epidemiological importance. It is also essential that physicians practicing primary care in this region should be aware of the common prevalent causes of pancytopenia and their necessary work-up.

Hence, the present study was conducted to study the clinico-hematological profile of pancytopenia in a tertiary care center in Jharkhand state of India. It was also intended to study if these causes showed any variation from other studies done in different regions of India.

MATERIALS AND METHODS

From July 2019 to July 2020, the present prospective study was conducted after institutional ethical approval in a tertiary care institute situated in Jharkhand state of India. The study was conducted over a period of 1 year from July 2019 to July 2020 including all the cases of pancytopenia diagnosed after detailed clinical history, hemogram, peripheral smear examination, bone marrow aspiration, flow cytometry, and relevant biochemical tests. Our study included both sexes, age of 18yrs and above, Haemoglobin <10g/dl, Leucocyte count <4000/cu.mm, and Platelet count <100000/cu.mm [11], excluding the patients below 18years.

All cases having hemoglobin (Hb) less than 10 gm/dl, total leukocyte count (TLC) less than 4000/mm³, and platelet count less than 100,000/mm³ were defined as pancytopenia. Blood counts were done by Beckman Coulter LH-750 or Sysmex XN-1000 automated counters. The low counts were cross-checked by peripheral blood

smear examination. All peripheral smears were also examined for anisopoikilocytosis, hypochromasia, and presence of atypical cell.

Bone marrow aspiration was performed after taking informed consent under local anesthesia from posterior superior iliac spine. Immunophenotyping of cases of leukemia was done on BD FACS Canto II flow cytometer.

RESULTS

A total no of 65 patients were found to possess pancytopenia between July 2019 and July 2020. 33.84% of patients (12) had bleeding manifestations, with either aplastic anaemia or acute leukemias. Icterus was present in 23.07% patients (13), most of them had megaloblastic anaemia or chronic disease. Liver was palpable in 23.07% patients (13) and was predominantly seen in patients with megaloblastic anaemia and leukemia. Splenomegaly was present in 23 patients (35.38%); found altogether cases of hypersplenism, in few cases of megaloblastic anaemia, MDS, and myelofibrosis. Lymphadenopathy found only in 3 (4.62%) cases and was seen in patients with leukemia [Figure 1].

Most common cause of pancytopenia in our study was megaloblastic anemia (38.46%), second most common was aplastic anemia (24.62%), followed by hypersplenism (12.31%). Besides these, other causes were acute leukemias (9.23%), Myelodysplastic syndrome (6.15%), collagen vascular disorder (3.08%), viral infection (3.08%), HIV (1.54%), and myelofibrosis (1.54%) [Figure 2]

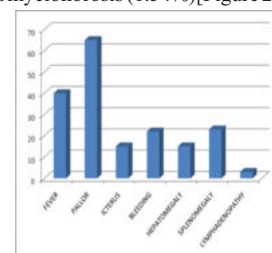


Figure 1 Various Clinical Features Of Patients With Pancytopenia

