MORPHOLOGICAL EVALUATION OF LYMPHOCYTES ON PERIPHERAL SMEAR EXAMINATION IN ADULT PATIENTS WITH LYMPHOCYTOSIS AND ITS CLINICAL CORRELATION

ABSTRACT

BACKGROUND

Lymphocytosis is one of the common manifestations that one can encounter in haematological practice. Lymphocytosis is defined as an absolute lymphocyte count exceeding 4000/ul and sometimes values more than 3100/ul are also used. Hence the lower threshold value for absolute lymphocytosis appears variable in the literature search. Likewise, the importance of morphological evaluation of lymphocytes on peripheral smear examination and its clinical correlation has not been well documented. This study is an attempt to evaluate the significance of morphological evaluation of lymphocytes on peripheral smear examination in adult patients with lymphocytosis and its clinical correlation in a tertiary care centre.

METHODS

A total of 120 adult patients with an absolute lymphocyte count more than 3000/microlitre were initially evaluated to classify them into a reactive or a neoplastic process. Statistical analysis and morphology of the lymphocytes were studied and correlated with clinical, hematological and biochemical parameters. All the patients were reviewed after a period of 3 to 6 months for lymphocyte count and morphology.
RESULTS

Among the 120 patients, 80 patients had an absolute lymphocyte count more than 4000/microlitre, out of which 68 patients showed reactive/atypical lymphocytes in peripheral smear. Whereas, out of the 40 patients who had an absolute lymphocyte count between 3000/microlitre to 4000/microlitre, only 17 of them showed a reactive lymphocyte morphology giving us an optimal cut off range more than 4000/microlitre of absolute lymphocyte count for morphological evaluation. Varied morphologies of reactive lymphocytes were noted during the study which closely resembled the malignant forms of lymphocytes. Relation between absolute lymphocytosis with reactive forms showed association with acute stress, respiratory infections, cigarette smoking, skin and psychiatric ailments.

CONCLUSION

A cut off range of more than 4000/microlitre of absolute lymphocyte count proves the need for morphological evaluation of lymphocytes. Lymphocytes with reactive morphology indicates a reactive process and presence of malignant morphology is a poor indicator of neoplastic process. Reviewing patients after proper treatment is essential to rule out underlying clonal changes with persistence of reactive/atypical lymphocytes after a period of 3 to 6 months.

KEYWORDS : Lymphocytes, Morphology, Peripheral smear