Reporting critical laboratory values in hematology

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The editor,

The concept of critical values, also termed as alert values, defined as an imminent laboratory result requiring immediate physician notification has been widely adopted as a standard of good laboratory practice. Designation of critical values by clinical laboratories is required by the Clinical Laboratory Improvement Amendment and regulatory agencies and virtually all laboratories have tests defined with 'critical limits'. Some of the published surveys conducted by College of American Pathologists and Joint Commission on Accreditation of Healthcare Organizations (JCAHO) state that there is no universal alert value list. Hematology laboratory parameters with values of hemato-crit (<20 – 22 / >56 – 59 percent), platelet count (<50 – 60 K / >980 – 999 K), and total white blood count (<1.9 K / >29 – 50 K) are included in most of them with considerable differences. There is no universal inclusion for abnormal/immature cells in the blood smears in the critical values, probably related to the practice of selected smear review and infrequently carried out visual/manual differential counts. Although there is widespread agreement that abnormal coagulation tests (PT, PTT) should be included on the hematology critical limit list, there is wide variation in the reporting pattern of coagulation tests (seconds, % of normal value and INR) and no uniformity is observed. Other commonly carried out coagulation tests such as fibrinogen,

thrombin time and D-dimer etc are also not included in most of the schemes.

Despite widespread acceptance and practice of critical value reporting, some of the recent reviews indicate several lacunae that are identified in the current critical value management and some important issues need further deliberations. These include acceptance of critical value report by clinicians, residents and nursing staff and the response thereon, consensus regarding outpatient versus inpatient notification and response, differences related to pediatric and adult critical values and documentation of critical value reporting practices and procedures, including automated documentation of critical values etc.

In India, although in wake of widespread use of automation and profile-based reporting in hematology, the concept of a short turnaround time is getting established, we do not have any policy or procedure related to the practice of reporting 'alert values' or 'critical values'. In most academic hospitals and referral laboratories a large fraction of both in-patient and out-patients samples have hematology laboratory results that fall in alert or critical category, but there is no system to notify these immediately. In our set-up, efforts to report critical findings or values to the treating clinician using the telephone or pager often fail and occasionally it is not possible to even locate or identify the patient in the stated ward/ bed. We end up adding a remark to the report in the HIS (hospital information system) in such cases.

For efficient use of laboratory data and to maximize clinical benefit for improved and timely management of our patients, we should introduce the concept of critical value reporting. The preparation and approval of critical value list should be done in consultation with the concerned hospital board/ clinician's panel and it is essential to discuss the

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possible mode of implementation for the same within the scope of local facilities.

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