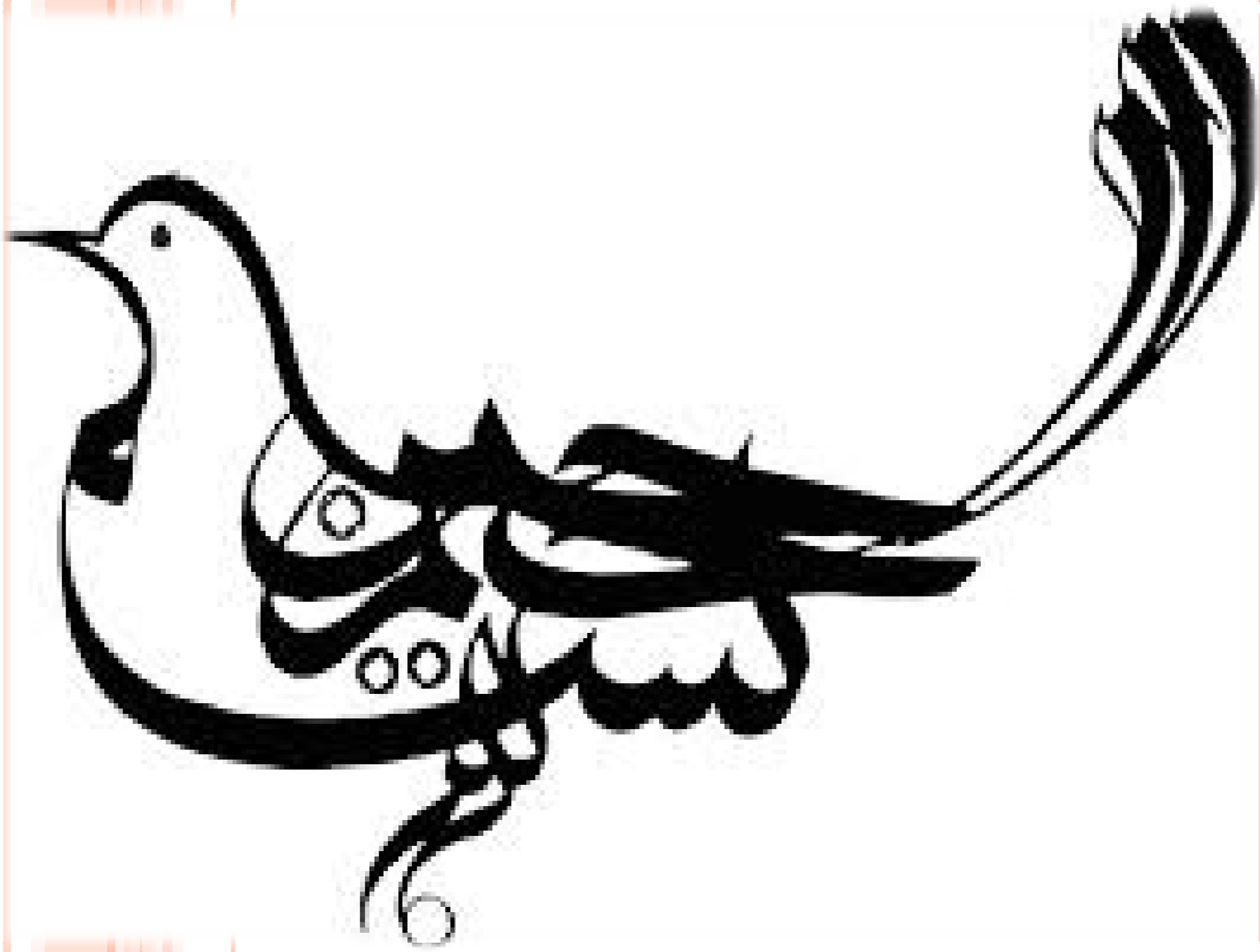

ارزیابی وضعیت تشخیص مولکولی از نظرهمکاران هماتولوژیست- مدیکال انکولوژیست

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- Personalized medicine, as defined by the National Academies Press, is ***"the ability to classify individuals into subpopulations that differ in their susceptibility to a particular disease or their response to a specific treatment. Preventive or therapeutic interventions can then be concentrated on those who will benefit, sparing expense and side effects for those who will not"***

- JAK2 and cMPL mutations were incorporated into the 2008 WHO criteria for ET, PV, and MF, and CALR mutations are similarly expected to be included diagnostic criteria in the next WHO classification

- These “driving” mutations also impact prognosis, especially in MF. In a study of 617 patients with MF, the median overall survival was longest in patients with CALR mutations (17.7 years), intermediate-length in patients with MF with JAK2 and MPL mutations (9.2 and 9.1 years, respectively), and shortest in patients considered “triple-negative” (3.2 years)

- The cumulative incidence of leukemic transformation was also lowest in patients with CALR mutations (9.4%) compared with those with JAK2 mutations (19.4%), MPL mutations (16.9%), or triple-negative status (34.4%).

- Specifically in personalized medicine, there has been an increasing focus on the barriers to widespread adoption (Brindley et al., 2015). The current literature highlights cost-effectiveness, efficacy, reimbursement, and regulation

- There is retrospective evidence that physician adherence with NCCN/ELN monitoring guidelines in the CML population improves outcomes

- Thus it is important to ensure that cancer treatment and monitoring guidelines are accessible, readily understood, easy to follow, and broadly implemented.

- Since several reviews have noted that less than one half of CML patients are monitored appropriately, with resultant inferior outcomes and increased financial costs, an understanding of these physician barriers is critical and may be important in establishing improvements not only in CML care but also across oncology care in general wherever evidence based practices exist.

- In a theoretical discussion of guideline use in medicine, Cabana et al noted that a lack of awareness and lack of familiarity may affect physician knowledge of a guideline

- Furthermore, lack of agreement, self-efficacy, outcome expectancy, and the inertia of previous practice are also potential barriers toward effective adoption of a guideline

- Although 96%of our physician respondents stated that they were familiar with the current guidelines , only one half recognized that the guidelines extensively review all aspects of CML disease management ,including recommended diagnostic studies and strategies to deal with complication of therapy, suggesting only a casual familiarity.

- Ninety-eight percent of physician respondents considered the CML guidelines to be evidence based, yet 19% stated that they did not follow their recommendations.

- Over one quarter of the respondents did not include marrow evaluations in their initial diagnostic work-up even though this is required to establish the appropriate phase of the disease, including exclusion of cytogenetic clonal evolution , which determines treatment strategy and TKI dosing

- One quarter of the respondents did not obtain baseline qPCR analysis required to confirm the reliability of future molecular testing. Sixteen percent did not perform qPCR monitoring quarterly during the first year, a practice associated with inferior CML survival.

- A large oncology network reviewed its members' adherence to molecular monitoring guidelines and noted that 27% of CML patients underwent no qPCR testing during the first 18 months after diagnosis, which was associated with inferior 4-year survival rates.

- As the primary driver, physician respondents in our survey shifted their nonadherence with guidelines to patient resource barriers such as the high cost of TKI therapies

- Lack of insurance not only affects medication procurement, but also impacts on diagnostic testing and monitoring.

- Although support from pharmaceutical companies exists to aid in obtaining TKI agents, little support exists to defray the costs of cytogenetic and molecular monitoring which can easily run into the thousands of dollars per year. In the absence of this support, physicians may be forced to accept the financial responsibilities of guideline related monitoring.

- Based on the results of this survey, it may be difficult to improve physician adherence with published guidelines through standard educational efforts.

- Other efforts to increase compliance with guidelines in cancer care are underway. Multidisciplinary clinics have been developed to permit multiple providers to establish comprehensive treatment plans including adherence with evidence-based guidelines. The use of nonphysician care givers to monitor and contact patients has also been recommended

- Since over one half of CML patients in large reviews are not receiving optimal evidence-based monitoring ,despite the physician reluctance we noted in this survey, multifaceted educational strategies, including automated computerized reminders at point of care, are needed to improve quality outcomes in CML

- In summary, this survey of hematologist-oncologists in two US states noted that significant barriers to adherence with evidence-based CML practice guidelines exist. In addition to patient resource barriers, physician familiarity and lack of agreement with the guidelines appear to restrict wider adoption.

- CML is a disease which comprises only a small proportion of most physicians' caseload and apathy appears prevalent. An uncommon malignancy that is frequently successfully treated with oral therapy may be viewed as less important to an oncology practice that is geared toward the treatment of common malignancies with reimbursable infusional agents