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Acute promyelocytic leukemia at diagnosis: a cohort study

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INTRODUCTION: Acute promyelocytic leukemia (APL) is a malignancy that impairs normal myeloid-lineage differentiation and causes life-threatening hemorrhagic and thrombotic events. The introduction of all-trans retinoic acid (ATRA) changed the natural history of APL and made cure an achievable outcome. Coagulopathy, however, remains the leading cause of mortality during the peri-induction period. Because these patients generally first present to primary care units, where ATRA is not readily available, this study sought to understand how this delay affects disease progression and to characterize the challenges of treating APL in our healthcare system. **METHOD:** This retrospective cohort study was based on a review of consecutive patients' medical records. We measured the intervals from symptom onset to diagnosis and from diagnosis to treatment initiation. Data normality was assessed with histograms and the Shapiro–Wilk test when applicable; variables were described using appropriate measures of central tendency and dispersion. Survival curves were compared with the log-rank test, and variables of interest related to clinical outcomes were assessed using correlation measures and scatterplots. **RESULTS:** One-year overall survival in the sample was 54%. The log-rank p value across risk groups was 0.092. Survivors and nonsurvivors had similar mean intervals from symptom onset to first contact with the healthcare system, institutional admission, and tretinoin initiation. Of the four patients who waited 10 days or longer between their first encounter and admission to a specialized service, three had an unfavorable outcome. The only survivor in this group waited exactly 10 days ($p=0.336$). **DISCUSSION:** The study suggests that risk stratification has prognostic importance, although statistical significance was not observed, possibly because of the small sample size. It also illustrates the realities of APL management at our institution and within our healthcare system. In addition, it reinforces the importance of diagnosis and timely access to specialized care. **CONCLUSION:** Rapid access to tertiary services, enabled by early diagnosis, is essential to improve survival in APL.

KEYWORDS: Acute promyelocytic leukemia; Primary health care; Time to treatment; Tertiary care centers.