Figure 4. Differential Diagnosis of Chronic Neutrophilic Leukemia

Suspect MPN
(hepatosplenomegaly, history of bleeding)

- CBC
  - WBC count ≥25 x 10^9/L
  - Segmented neutrophils and bands >80%
  - Immature granulocytes <10%
  - Blasts <1%
  - Rule out secondary causes of neutrophilia
  - BCR/ABL1 Rearrangement/ JAK2 Mutation Analysis (rarely +)
    - Positive/Negative
    - Negative/Negative
    - Negative/Positive
      - Suspect CNL
        - Bone Marrow Morphology and Chromosome Analysis
          - ↑ cellularity with ↑ number and % neutrophils
          - Myeloblasts <5%
          - Normal neutrophilic maturation pattern
          - Normal karyotype (90% of cases)
          - Negative for other MPNs and MDS/MPN overlap syndrome
            - CNL diagnosed

MPN indicates myeloproliferative neoplasm; CML, chronic myelogenous leukemia; CNL, chronic neutrophilic leukemia; and MDS/MPN, myelodysplastic syndrome/myeloproliferative neoplasm.

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