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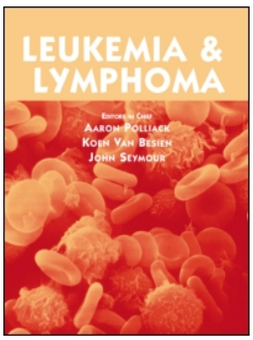

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Acute promyelocytic leukemia: if you wait it is too late

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Acute promyelocytic leukemia: if you wait it is too late

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Avgerinou and coauthors describe a case of cytogenetically cryptic and fish-negative acute promyelocytic leukemia (APL) which was finally detected by RT-PCR. The authors highlight the importance of RT-PCR for the detection of the PML/RARA rearrangement. Lastly they assert that the results of RT-PCR is vital for prompt initiation of all-trans-retinoic acid (ATRA) based treatment [1].

We agree with the authors that RT-PCR is mandatory in the workup of APL for two reasons: 1)To confirm the presence of the PML-RARA fusion gene, 2) to monitor the disease during treatment.

As a contribution to this case we would like to emphasize that RT-PCR is not necessary for initiating ATRA therapy. APL has a good prognosis, but is a medical emergency. Early hemorrhagic death is still the major cause of induction failure. For this reason, guidelines recommend initiating ATRA therapy based exclusively on clinical suspicion without waiting for diagnosis confirmation. Next to ATRA based treatment it is of great importance to start supportive care to maintain the fibrinogen concentration above 100–150 mg/dl, the platelet count above 30–50 $\times$ 109/L [2].

In addition, RT-PCR and cytogenetic tests have a longer turnaround time than is necessary to make rapid treatment decisions. On the contrary the immunofluorescent analysis of the PML distribution pattern with the anti-PML monoclonal antibody PG-M3 is easy to perform, requires a peripheral blood or marrow smear and has a turnaround time of 2 h. That means, it takes only 2 h to confirm the diagnosis of APL and predict sensitivity to ATRA. In fact, as previously described in other reports [3–5], the identification of a characteristic micro-speckled nuclear pattern of the PML correlates with 100% concordance with the presence of the PML-RARA fusion gene detected by reverse-transcription polymerase chain reaction and indicate responsiveness to ATRA/ATO.

It has to be highlighted that in the presence of a strong suspicion of APL and concomitant absence of a characteristic micro-speckled nuclear pattern, ATRA therapy should not be stopped until genetic tests are done. This because there are rare APL cases with different RARA fusion partners that could still be responsive to ATRA treatment.

In summary, by the suspicion of an APL, ATRA and supportive care should promptly been started without waiting for confirmation tests. The most rapid test to show ATRA sensitivity is the immunofluorescence using the anti-PML antibody. This technic can be particularly advantageous in clinical settings, such as community hospitals or in under-resourced countries where other methods are not promptly available.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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