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Short Communication

Short Note on Acute Promyelocytic Leukemia

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DESCRIPTION

Acute Promyelocytic Leukemia (APL) is a kind of acute leukaemia that is distinguished by aberrant promyelocyte growth, life-threatening coagulopathy, and chromosomal translocation. The introduction of all-trans retinoic acid (ATRA) and arsenic trioxide (ATO) therapy improved the prognosis of APL patients dramatically after the discovery and clarification of the molecular pathophysiology for APL [1].

Acute leukaemia patients should be treated in centres with properly trained physicians and nurses. It's also critical to have access to supportive treatment, such as platelet transfusion therapy, and a well-equipped laboratory.

To avoid early mortality, all-trans-retinoic acid (ATRA) and/or arsenic trioxide (ATO) medication and supportive therapy should be initiated as soon as possible after the development of acute promyelocytic leukaemia (APL) and the risk of severe hemorrhagic episodes. According to current recommendations, these measures should be initiated as soon as there is a clinical suspicion of APL and before genetic confirmation of the diagnosis [2].

Induction, consolidation, and maintenance are the three steps of APL treatment. The optimal induction therapy, the best initial treatment for the elderly, the subgroup of patients most likely to benefit from maintenance therapy, and the most effective regimen for recurrent disease are all topics of contention among experts. Clinical trials are underway to address these concerns.

In all three phases of APL treatment, ATRA is a critical component. Malignant Promyelocytes can be terminally differentiated into mature neutrophils using ATRA. ATRA, on the other hand, is unable to destroy the malignant clone on its own [3]. ATO or chemotherapy must be added to achieve full hematologic and molecular remission.

The signs and symptoms have a tendency to be in fashionable with the subsequent being feasible signs and symptoms

- Anemia
- Fatigue
- Weakness
- Chills
- Depression
- Difficulty breathing (dyspnea)
- Low platelets (thrombocytopenia) main to smooth bleeding
- Fever
- Infection due to low neutrophils (neutropenia)
- Elevated white blood cells (leukocytosis)
- Coagulopathy (together with DIC)
- Bicytopenia

Easy bleeding from low platelets might also additionally encompass

- Bruising (ecchymosis)
- Gingival bleeding
- Nose bleeds (epistaxis)
- Increased menstrual bleeding (menorrhagia)
- Brain bleeds (Intracerebral hemorrhage)

Acute promyelocytic leukaemia (APL) is a kind of acute myeloid leukaemia that differs from acute myeloid leukaemia (AML). The former French-American-British (FAB) system classifies it as AML M3 and the World Health Organization (WHO) classifies it as APL with translocation between chromosomes 15 and 17 [4].

Although early confirmation of genetic diagnosis is required, patients suspected of having APL (based on clinical presentation and peripheral blood smear results) should be admitted to the hospital right away and treated as a medical emergency [5].

Patients with APL can be classified into one of three risk groups based on their white blood cell (WBC) and platelet counts. Induction therapy, consolidation therapy, and maintenance therapy are all used to treat APL. Below are protocols for various stages, as well as guidelines for relapse management and prophylaxis.

APL differentiation syndrome (also known as retinoic acid syndrome [RAS]) can occur within the first 21d of treatment and is characterized by the following:

- Fever
- Hypotension
- Weight gain
- Respiratory distress

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- Serositis with pleural or pericardial effusions
- Hypoxemia
- Radiologic infiltrates
- Acute kidney injury
- Hepatic dysfunction

Hyperleukocytosis is common, but leukocyte counts may be normal [6].

CONCLUSION

Acute Promyelocytic Leukaemia accounts for 10% to 12% of all AML cases. The median age is around 30-40 years, which is much younger than the other AML subtypes (70 years). People of Latin American or South European ancestry have a lower rate of infection. Because of the carcinogenic effects of topoisomerase II inhibitors (including anthracyclines and topside), it can also develop as a secondary malignancy in those who get treatment with them, with breast cancer patients accounting for the majority of such cases. Around 40% of APL patients have a chromosomal abnormality, such as trisomy eight or is chromosome 17, which does not appear to have any long-term implications.

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