COIN

Suggested Admission Orders for Patients Presenting with Acute Promyelocytic Leukemia

Acute promyelocytic leukemia (APL) is a distinct subtype of acute myeloid leukemia. APL is associated with very high proportion of cure (>90%) with adequate treatment. However, early mortality can be high due to disseminated intravascular coagulation (DIC) and/or major bleeding. Furthermore, after the initiation of treatment, a differentiation syndrome (characterized by fever, hypotension, pulmonary infiltrates, acute renal failure, peripheral edema, and pleural/pericardial effusions) can lead to multiorgan failure and acute respiratory distress syndrome.

Bloodwork:

- ❑ Q6H: Electrolytes (Na, K, Cl, Ca, Mg, PO4), creatinine, uric acid
- ❑ Q6H: CBC, INR, aPTT, fibrinogen, D-dimer
- ❑ Blood cultures, urine cultures

Specific Therapy:

- ❑ All-trans retinoic acid (ATRA) as per Oncology orders. Contact Oncology if ATRA cannot be given because of lack of enteral access.
- ❑ Arsenic trioxide (ATO) as per Oncology orders
- ❑ Induction chemotherapy as per Oncology orders

Cytoreductive Therapy: Discuss with Oncology

- ❑ Hydroxyurea _____ mg _____ times per day; reassess at least daily

IV Fluids:

- ❑ Ringers Lactate at _____ mL/hour
- ❑ Normal saline at _____ mL/hour
- ❑ Avoid diuretics unless clinically significant volume overload is present (i.e., pulmonary edema requiring increased oxygen)

Transfusion Thresholds:

- ❑ Maintain platelets greater than 30 x 10^9/L
- ❑ Maintain fibrinogen greater than 1.5 g/dL
- ❑ Maintain INR less than 1.5

Tumor Lysis Prophylaxis:

- ❑ Allopurinol _____mg PO daily
- ❑ Rasburicase 4.5g IV x 1 in high-risk patients (WBC > 100)
    - Must rule out for G6PD deficiency first

Additional Considerations:

- ❑ Consider empiric broad-spectrum antibiotics for possible superimposed infection. The most common empiric regimen would be piperacillin-tazobactam +/- vancomycin (if risk factors for MRSA).
- ❑ Avoid all unnecessary invasive procedures due to high risk of bleeding.
- ❑ Actively monitor for differentiation syndrome. If suspected start Dexamethasone 10mg BID and discuss with the treating oncologist whether ATRA should be discontinued.
- ❑ Daily EKG if treatment with arsenic trioxide (ATO) due to risk of QT prolongation.
- ❑ Sequential compression device (SCD) for venous thromboembolism prophylaxis.