Chronic Leukemia Algorithm
Please review definition and pathophysiology when using the algorithm

Chronic Lymphocytic Leukemia
Assess for the presence of risk factors:
- Being middle-aged or older, male, or white.
- A family history of CLL or cancer of the lymph system.
- Having relatives who are Russian Jews or Eastern European Jews.

Herbicides such as Agent Orange are under investigation. There are no other proven risk factors for CLL. The risk of getting CLL does not seem to be affected by smoking, diet, exposure to radiation, or infections. ACS 8/1/07

Chronic Myelogenous Leukemia
Assess for the presence of risk factors:
- Increased incidence with age
- More common in males than females
- Exposure to high dose radiation

The risk of getting CML does not seem to be affected by smoking, diet, exposure to chemicals, or infections. Nor does CML run in families. ACS 9/15/08

Are Risk Factors Present?

YES

NO

Monitor for presence of signs/ symptoms:
- Painless swelling of the lymph nodes in the neck, underarm, stomach, or groin.
- Feeling very tired.
- Pain or fullness below the ribs.
- Fever and infection.
- Weight loss for no known reason.

Are positive findings present?

YES

NO

Initiate client education for Health Seeking Behaviors to identify:
Disease process education:
- Although many types of cancer can be prevented by lifestyle changes to avoid certain risk factors, there are very few known risk factors for chronic lymphocytic leukemia (CLL). Most CLL patients have no known risk factors, so there is no way to prevent these cancers.
- There is no known way to prevent most cases of CML. The only potentially avoidable risk factor for CML is exposure to high doses of radiation, which is seen in only a few cases.
- Teach s/s of known risk factors to report

Initiate client education to manage risk for ineffective therapeutic regimen management:
- Teach client about course and progression, signs and symptoms of progression to report
- Prepare client about diagnostic process; BMT. BM aspiration
- Teach client about medication therapies during chronic phase and s/s to report
- Teach infection protection, bleeding precautions, and anemia management

Follow collaborative plan of care for Lymphoproliferative disorders
### Potential Complication: Pancytopenia secondary to leukemia

#### ASSESS s/s of Pancytopenia
- Fatigue, dizziness
- Frank vs. occult bleeding
- Ecchymoses
- Fever
- Infection esp. pneumonia
- Hepatosplenomegaly

#### Monitor for presence of Pancytopenia
- Monitor VS q 4 hours and prn to identify hemodynamic compromise indicating impending sepsis, anemia, bleeding
- Monitor results of bone marrow aspiration
- Monitor chest Xray for sign of pneumonia
- Monitor echocardiogram for s/s of cardiotoxicity from chemo agents
- Monitor renal function prior to initiation of chemotherapy

**Monitor for presence of hemorrhage, opportunistic infection and activity intolerance**
- Monitor CBC for the presence of decreased neutrophil count despite leukocytosis, thrombocytopenia, anemia
- Monitor peripheral smear for circulating blast cells in CML
- Monitor for s/s of DIC

#### DO
**Perform nursing actions that correct Pancytopenia & manage blast crisis of CML or progressing CLL**
- Administer induction chemotherapy as prescribed and monitor for remission
- Administer stem cell transplantation as ordered if indicated
- Prepare client for splenectomy to improve hemoglobin and platelet counts if indicated

**Institute**
- bleeding precautions
- energy conservation strategies
- infection protection

**Performs nursing actions to minimize complications of an exacerbation of the disorder**
- Transfuse blood and blood products as ordered
- Administer antibiotics as prescribed

#### CALL
**For s/s of hemodynamic instability, infection, bleeding, signs of multi organ dysfunction syndrome, respiratory and hematologic failure.**
- Initiate shock management & call MD