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Blinatumomab (Blincyto)

Patient MRN: 6745328
Patient DOB: 7-30-2017 (7yo)
Patient Sex: M

OUTPATIENT CLINIC NOTE

HPI:

7 year old male with diagnosis of Philadelphia chromosome-negative B-cell precursor acute lymphoblastic leukemia (B-ALL) presents for a follow up visit to review repeat bone marrow biopsy results. After completing the consolidation phase (see patient's detailed standard treatment plan below), the patient underwent a repeat bone marrow biopsy on 10/4/24. While he achieved clinical remission with less than 5% blast cells, further testing revealed that the patient was positive for minimal residual disease (MRD+) with 0.1% leukemic cells detected via flow cytometry.

Patient has been doing well clinically. Parents report that the patient has had mild fatigue and decreased energy, but is overall well appearing with no recent fevers.

Diagnosis: A bone marrow biopsy on 3/29/24 confirmed a diagnosis of B-ALL with 85% lymphoblasts. Cytogenetic analysis indicated Philadelphia chromosome-negative disease.

Completed Treatment Plan

Induction Phase:

- Duration: 4 weeks (4/1/24 - 4/29/24)
- Agents Used:
    - Vincristine: Administered weekly
    - Dexamethasone: Administered daily for 28 days
    - L-asparaginase: Administered on alternate days
    - Daunorubicin: Given as a single dose during the first week

Consolidation Phase:

- Duration: 8 weeks (5/6/24 - 7/1/24)
- Agents Used:
    - Methotrexate: High-dose, given weekly

    - Mercaptopurine: Daily oral administration
    - Vincristine: Administered biweekly
    - Cyclophosphamide: Given during the third week
    - Doxorubicin: Administered during the final week of consolidation

Proposed Maintenance Phase:

Started 7/8/24

- Agents:
    - Methotrexate: Weekly doses
    - Mercaptopurine: Daily oral administration
    - Vincristine: Every 4 weeks
    - Intrathecal Methotrexate: Plan to administer every 2-3 months for CNS prophylaxis. First dose 10/4/24 at time of repeat bone marrow biopsy

Review of Systems:
General: Negative for fever, pallor. Positive for fatigue
Skin: Negative for rashes
Head, Eyes, Ears, Nose, Throat (HEENT): Negative for headache, vision changes, nasal congestion, rhinorrhea, sore throat.
Cardiovascular: Negative for chest pain, palpitations
Respiratory: negative for cough, shortness of breath, wheezing.
Gastrointestinal: Negative for abdominal pain, nausea, vomiting.
Genitourinary: Negative for dysuria, frequency, urgency, hematuria.
Musculoskeletal: Negative for joint pain, stiffness, muscle weakness.
Neurological: Negative for seizures, weakness, numbness.
Endocrine: Negative for heat/cold intolerance, excessive thirst or urination, changes in appetite.
Hematologic: Negative for rashes, bruises, petechiae or purpura
Psychiatric: Negative for depression, anxiety

Vitals:
HR 95 bpm
BP 110/70 mmHg
RR: 18 bpm
Temp: 98.7°F (37°C)

Physical Exam
General Appearance: No acute distress, laying in bed comfortably
Skin: Normal, without rashes or bruises
Head: Normocephalic, atraumatic.
Eyes: Pupils equal, round, reactive to light; conjunctivae clear.
Ears: External ears normal; tympanic membranes intact
Nose: Nasal passages clear; no discharge.
Throat: Oral mucosa moist; tonsils non-enlarged, no erythema.
Cardiovascular: Normal rate, regular rhythm; no murmurs, gallops, or rubs.
Respiratory: Clear bilaterally, no wheezing or crackles. No use of accessory muscles, unlabored breathing.
Gastrointestinal: Abdomen soft, non-tender, no distension; bowel sounds present. No hepatosplenomegaly.
MSK: No joint pain, normal range of motion.
Neurological: Alert, oriented. At baseline.

Assessment: 7-year-old male with a diagnosis of B-cell precursor acute lymphoblastic leukemia (B-ALL), diagnosed 2 years ago. He was previously treated with a standard chemotherapy regimen and has achieved remission. Recent bone marrow biopsy revealed positive minimal residual disease (MRD+), indicating the presence of leukemic cells (0.1%) despite clinical remission.

Plan:

1. **Initiate Blinatumomab therapy for management of MRD+ B-ALL.**
2. **Schedule biweekly visits for monitoring during treatment with Blinatumomab, including routine CBCs and assessments for adverse effects.**
3. **Education materials on Blinatumomab and MRD management to be provided to the family.**