6-2021

Stroke, Sickle Cell, PICU/Inpatient

Children's Mercy Kansas City

These guidelines do not establish a standard of care to be followed in every case. It is recognized that each case is different and those individuals involved in providing health care are expected to use their judgment in determining what is in the best interests of the patient based on the circumstances existing at the time. It is impossible to anticipate all possible situations that may exist and to prepare guidelines for each. Accordingly, these guidelines should guide care with the understanding that departures from them may be required at times.

PICU Process

Admit Sickle Cell Stroke Patient to PICU for Exchange Transfusion
- Continue IV fluids at 1x maintenance flow rates **(Total fluid intake should NOT exceed maintenance)**
- Provide adequate pain control
- Place pheresis catheter
- Consult Heme/Onc

Pheresis Catheter recommendations:
- AV ports (dual lumen)
- Central line (femoral) [Prefer no IJ]:
  - < 20 kg: 8 Fr or larger, double lumen
  - 20-50 kg: 10 Fr or larger, double lumen
  - > 50 kg: 12 Fr or larger, double lumen
- Peripheral venous: 16-18 Gauge needles in an antecubital vein; Consult VAT if needed.

Typical Laboratory Findings in Sickle Cell Disease

Prior to exchange:
- Ensure pre-exchange transfusion labs were obtained prior to exchange
- Call lab to confirm receipt of Hgb S (Do not wait for Hgb S level to initiate apheresis)

For diagnosed CVA, and / or clear history / physical indicating CVA:
Perform RBC exchange transfusion to a hemoglobin of 11 to 12 g/dL and HbS level of 10 to 15% of total HgB

Upon completion of exchange transfusion:
- Switch IV fluids to NS
- Remove the CVL to reduce the risk of thrombosis
- D/C non-rebreather, supplemental O2 PRN
- Obtain BMP, iCa, Mag, Phos, Hgb S (batch pre and post Hgb S labs)

Medical Team Process

- Encourage ambulation and activity
- Consult Neurology, Rehab Services, Psychology, Speech, PT, OT
- Consult Neurosurgery if patient has evidence of Moya Moya Syndrome and/or concerns with Stenooclusive disease on initial MRI/MRA -- CTA and plan for surgery

Inform Sickle Cell Team of potential discharge to:
- Organize clinic follow-up
- Next transfusion

Discharge when the patient meets the following criteria:
- Clinically and neurologically stable $\geq$ 24 – 36 hours post tranfusion(s)
- Afebrile for at least 24 hours
- Fluids and medications are being taking orally
- Validate follow up arrangements have been made with: Sickle cell team, Neurology, Physical Therapy, Rehab Services
- Validate follow up arrangements have been made with Neurosurgery (if patient has evidence of Moya Moya)

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