**NOTE 2**

**PATIENT 1005**

**DATE: 5/5/20**

**Patient Summary**

Patient is a 2 month old former 24 and 2/7 week gestation infant transferred from HOSP 1 with BPD, admitted for an airway evaluation.

**Presenting History**

Patient is a former 720 g male infant delivered by cesarean section to a 33-year-old G5, P3, now 4 woman. Date of birth was 02/18/2020. PNS: Blood type AB positive, antibody negative, hepatitis B surface antigen negative, rubella immune, RPR nonreactive, HIV negative, group beta strep status negative. Maternal past medical history significant for anemia and nephrolithiasis. This pregnancy was an IVF conception and was complicated by cervical insufficiency. Mother had an exam-indicated cerclage and asymptomatic bacteriuria with Enterococcus faecalis was diagnosed on 2/1 and was not treated. Full fetal survey was normal. Prenatal medications included vaginal progesterone and prenatal vitamins. The mother presented with preterm contractions and prolonged premature rupture of membranes on 2/15 and was made betamethasone complete.  
  
Delivery was by C-section for breech presentation. There was concern for maternal chorioamnionitis with maternal tachycardia. Rupture of membranes occurred 67 hours prior to delivery. Mother received penicillin and intrapartum antibiotics as cesarean section prophylaxis. She was previously on magnesium for neuro protection, though not at the time of delivery. The infant emerged with good tone, had cord clamping at approximately 20 seconds, was brought to the warmer and placed with thermal wrap and warming mattress. He had intermittent respirations and fair tone. He was bulb suctioned. Positive  
pressure ventilation was started at 30 seconds of life with oxygen of 30%. There was poor chest rise and heart rate was 50 to 60. Airway maneuvers were unsuccessful to attain adequate chest rise. Infant required up to 80% oxygen. He was intubated at 3 minutes of life with good carbon dioxide detector color change and bilateral breath sounds. Heart rate rose to 140. His FiO2 was able to be weaned to 40%. He was transferred to the NICU without incident in a heated isolette. Apgar scores were 3 at 1 minute and 7 at 5 minutes. The placental pathology showed acute chorioamnionitis with fetal response.  
  
Birth Anthropometrics  
Weight 720 g, 65th percentile  
Head circumference 22.5 cm, 65th percentile;  
Length 32 cm, 63rd percentile.  
  
Discharge Anthropometrics  
Weight 1965 g (11 %ile);  
Head circumference 28.5 cm (1 %ile)  
Length 38 cm (0 %ile)  
  
  
**HOSP 1 NICU Course**  
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CV: Patient presented with a murmur in the first week of life. His initial echocardiogram on 2/24 showed a large PDA with left-to-right flow in systole, pandiastolic runoff in the abdominal aorta and mild RV  
hypertension. He had a course of indomethacin from 2/27-2/28. There was no substantial decrease in the size of his PDA so he received a second course of indomethacin from 3/1-3/2. His PDA remained hemodynamically significant so he received a course of IV Tylenol from 3/3-3/10. On 3/9 he had a large PDA with left-to-right flow and holodiastolic flow reversal in the abdominal aorta. Ductal closure was  
deemed appropriate. The infant had a delay in the ductal closure due to bacteremia. A PDA ligation was deemed preferable to a Piccolo closure. He underwent a PDA ligation on 3/29. He was treated with milrinone post-operatively. Post-operative echo on 3/31 showed no PDA, mildly dilated LV with normal function.  
  
Access: UVC 2/18-2/25. PICC 2/25 -3/16.  PICC 3/22- 4/7.  Current PICC placed by IR on 4/27  
  
Resp: Patient was treated with two doses of surfactant and continued on assist control volume guarantee  
ventilation. He self extubated on DOL 3 at which time he was given a brief trial of NIPPV, but ultimately required reintubation. He continued on ventilatory support until 3/5 when he had an elective extubation to NIPPV. He had 4 additional extubation attempts on 3/6, 4/4, 4/11, and 4/25 with airway dexamethasone dosing prior to the most recent 2 attempts. He required re-intubation after each attempt and at the last re-intubation on 4/25 could only accommodate a 2.0 ETT. ORL evaluation above the vocal cords was not notable for abnormalities other than edema, but he is being transferred to HOSP 2 for further airway evaluation.  
At the time of transfer, he is on assist control volume guarantee mode of ventilation with a tidal volume 5.5 mL/kg, a PEEP of 8, a backup rate of 30 and 24 to 35% FiO2. He remains intubated with a 2.0 endotracheal tube at the time of transfer.  
He has received caffeine since birth for apnea of prematurity. He had a small left pneumothorax  
post-operatively after the PDA ligation that resolved without intervention.  
  
FEN: The infant has previously received total parenteral nutrition and intralipid. He was able to be advanced to full enteral feeds following PDA ligation. He did have a period of NPO for medical NEC therapy in March. Serum electrolytes have been trended during his admission and except for some transient hyponatremia, have remained within normal limits. After the PDA ligation, he was re-started on enteral feedings and advanced to full volume without incident. He is currently receiving breast milk fortified to 32 cal/oz with added liquid protein. He also receives supplemental calcium carbonate and Neutraphos.  
Current feeding plan: Breast milk 32 kcal/oz with liquid protein at 135 mL/kg/day.  His PICC is running D5W at 1 mL/hr.  
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ID: This infant was initially evaluated for sepsis at the time of admission to the Neonatal Intensive Care Unit due to the prolonged rupture of membranes. A blood culture was no growth at 48 hours. He received empiric ampicillin and gentamicin for that initial 48 hours, which was discontinued with no growth of the blood culture. This infant presented on 3/11 with a nodular neck mass in the right submental area. It was identified as a possible abscess by ultrasound. He had consults from ORL and ID from hosp 2. He underwent two incision and drainages of the neck abscesses on 3/13 and 3/16. The culture from the abscesses grew S. aureus both times, sensitive to oxacillin. His blood culture initially on3/11 was positive for both S. aureus and S. epidermis. He continued to have positive cultures for S. epidermis, but as the sensitivities were different, these were all felt to be contaminants. His PICC was removed due to the persistent Staph epi cultures as a precaution. He did receive a 7-day course of vancomycin then was changed to oxacillin for 21 day total antibiotic course for the neck abscesses. Patient also received a week of IV Zosyn for some pneumatosis seen on an abdominal film at the time of the initial bacteremia. The Zosyn was completed on 3/25. During the course of broad spectrum antibiotic treatment he received prophylactic fluconazole twice weekly that was discontinued on 4/4.  
ID re-engaged at the beginning of May due to a positive CMV which they felt was acquired and did not need treatment unless Patient became symptomatic.  
  
Heme: He has received multiple transfusions of packed red cells since admission, the last occurring on 3/31. His CBCs have been trended His most recent CBC on 5/4: WBC 13.6, hematocrit 27.5%, platelet count 279K. He previously had thrombocytopenia that has resolved.  
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Renal: This infant was noted to have some renal insufficiency, likely in the setting of his patent ductus arteriosus. His serum creatinines were trended between March 1 and 3/8 and were 1.3 to 1.6. They have since been downtrending. Most recent labs on 5/4:  BUN of 14 and a Cr of 0.3.  
  
GI: This infant did require treatment for unconjugated hyperbilirubinemia with phototherapy.He was treated with phototherapy from DOL 1 through DOL 3.His liver function tests have been trended. The direct bilirubin level continued to rise with a peak of total 5.2/4.2 direct on 4/19/20. He was started on ursodiol on 4/20/20. Most recent levels on 5/4/20 were 2.3/1.6. AST/ALT level have also been trended, most recently were AST 78, ALT 90. Coags are normal. He is being followed by the Hepatology Service at Hosp 2. Abdominal/liver ultrasound on 4/12/20 showed a visible common bile duct and normal appearing liver. As previously mentioned, this infant had an area of bowel that was concerning for pneumatosis. He was treated with five days of gastric decompression and seven days of IV Zosyn. The Zosyn was discontinued on 03/25/2020. An abdominal x-ray on that date was reassuring without any evidence of pneumatosis and normal bowel gas. He was started on enteral feeds of breast milk at 10 mL/kg.  
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Neuro: This infant has had an age-appropriate neurological exam. He has had four head ultrasounds since admission, the most recent on 03/21/2020. All of them have shown no evidence of IVH and otherwise normal for age brain structure. He received intermittent dosing with fentanyl for procedures and post-operative pain. On 4/26/20 he was started on a Precedex drip for background sedation given his critical airway status.  
  
Ophthal: Eye exam (4/27) ROP Stage 1-2 Zone 2 3 clock hrs OU, 5/3: Stage II bilaterally, left eye concern for pre-plus disease. Plan to f/u with RetCam on 5/8.  
  
Current Medications:  
Precedex 1 mcg/kg/hr  
Ursodiol 19 mg NG q12h,  
Caffeine 19 mg NG q24h  
Phosphate-sodium-potassium oral suspension 15 mg NG q12h  
Calcium carbonate suspension 30 mg NG q12h  
ADEK 0.5 mL NG daily  
Ferrous sulfate 7.5 mg NG daily.  
  
RHCM  
State newborn screens were sent on February 20, showing a slightly increased methionine level, on 03/05/2020 showing a T4 of 3.4 and positive for possible MCAD. A repeat specimen was sent on 03/20/2020 with normal results. Repeat screens senton 4/19, and 4/26/20.  
Critical congenital heart disease screening will not be required as this infant has had his cardiac anatomy evaluated by echocardiogram.  
Immunizations: Hepatitis B vaccine 4/19, Pentacel 4/19, HiB 4/19, Prevnar 4/20 2020.

**Plan**

*CV:* PDA ligation 3/29. Post-operative echo on 3/31 showed no PDA, mildly dilated LV with normal function. Plan repeat echo given evolving BPD  
Access: sLPICC placed by IR on 4/27, in RLE, central on admission XR.  
  
*Resp:*Evolving BPD. h/o multiple extubation attempts with dexamethasone, last intubated with 2.0 ETT 4/25 with minimal leak. Adjust to BPD settings, trend gas exchange. Consider diuretic trial. Consult ORL for airway eval and pulmonary for BPD. On caffeine  
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*FEN:*On NG feeds, 135cc/kg/d of BM 32 kcal/oz with liquid protein. **Consider trial of NJ feeds.**Continue Ca supps, DEKAs  
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*GI/Bili:*h/o medical NEC, ongoing cholestasis, improving.  previous Abd US at HOSP 1 with normal appearing biliary tree. Admit Bili 1.4/1.1  
  
*Heme:*Admit HCt 27, consider transfusion if oxygenation does not improve  
  
*ID:*+CMV on 5/2 (in setting of cholestasis). ID consulted, no plan for treatment currently. History: At 1 mo age developed nodular neck mass in the right submental area, s/p I&D (Grew S aureus), also blood culture + for S aureus and S epi, s/p 21 days vanco + oxacillin.  
  
*Neuro:*Previously normal HUS, last 3/21. Cont precedex gtt, start morphine infusion.  
  
*Optho:*  5/3: Stage II bilaterally, left eye concern for pre-plus disease. Plan to f/u with RetCam on 5/8.  
  
*Disposition:*To remain at HOSP 2 NICU For airway eval and respiratory management  
  
  
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*RHCM:*  
- Newborn screening: Elevated methionine on 2/20, possible MCAD on 3/5, repeat 3/20 normal; 4/19 and 4/26 pending. Send per protocol.  
- Hepatitis B Vaccination: 4/19  
- Other Vaccinations: Pentacel 4/19, HiB 4/19, Prevnar 4/20.  
- CCHD: not needed, echo  
- Hearing screen: will need  
- Car seat testing: will need  
- Circumcision: to be determined