Red Herring

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Prenatal History

- Born at a community hospital at 37 weeks 2 days
- Rupture of membranes for 5 hours
- Induction of labor for low AFI 2.9
- Cesarean for failure to progress
- Maternal labs: A+/-, GBS negative, urine tox screen not documented, remainder of labs unremarkable
- Maternal History: G3P0020

Delivery Room Management

- Dried and stimulated
- Vigorous, appropriate HR and tone
- APGARs 8,9
- 10 minute of life baby noted to be “dusky”, pre ductal pulse oximetry revealed SaO2 in the 60’s
- PPV FiO2 21% initiated and SaO2 increased to 75-78%
- Infant transitioned to CPAP +5 with increased work of breathing
- FiO2 increased to 100% with max SaO2 90%
- Transported to NICU for further assessment

Community NICU Course

- **RESP/CV**
  - CXR with right side pneumothorax
  - Needle decompression with 200 ml of air evacuated
  - Transitioned to HFNC 6 L with FiO2 100%
  - O2 saturations increased 91-94% but remained labile
  - Transport to level IV NICU initiated
  - Arterial Gas 1 hour of life (HOL) 7.13/75/55/24.9/-5.9,
  - Capillary Gas 2 HOL 7.26/59/37/26.5/-1.7
  - Hemodynamically stable
- **FEN**
  - PIV placed and started on fluids with D10 at 60ml/kg/day
  - Glucose stable
- **ID**
  - CBC/Blood culture obtained, ampicillin/gentamicin started
  - WBC 33 K/mcL, 17% bands, H/H normal
- **NEURO**
  - Normal exam

Vital Signs/ Physical Exam

Temp: 36.4 ° C (97.5 ° F), Pulse: 142, Resp: 66, BP: 58/22, SpO2: 93 %

Physical Exam

Constitutional: Active and alert term male infant on high flow NC, AGA

Head: Anterior fontanelle is flat. Palate intact, no pre auricular pits or tags

Eyes: Conjunctivae are normal

Cardiovascular: Normal rate and regular rhythm, no murmur, cap refill <2 seconds

Pulmonary/Chest: Increased WOB with nasal flaring, tachypnea, and subcostal retractions . Good air entry on left side, decreased air entry on right

Abdominal: Soft, non tender, non distended

Genitourinary: Penis normal, uncircumcised, testes descended bilaterally, anus patent

Neurological: He has normal strength, intact primitive reflexes, normal tone

Skin: No rash or lesions

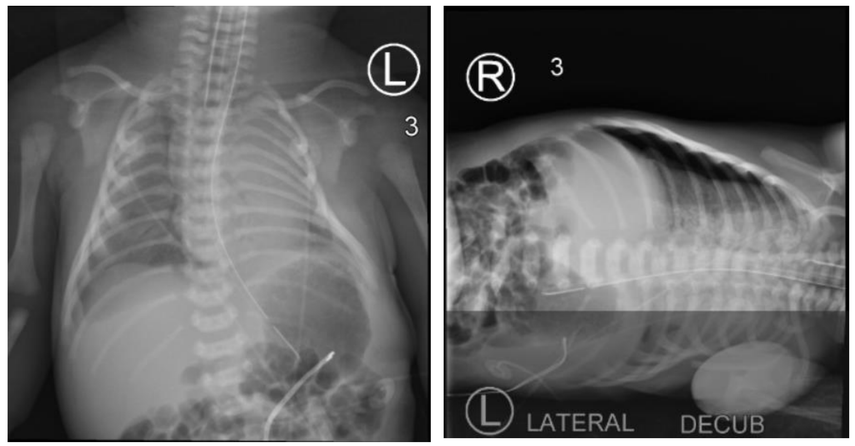

Figure 1: Admission CXR 0700 DOL 1

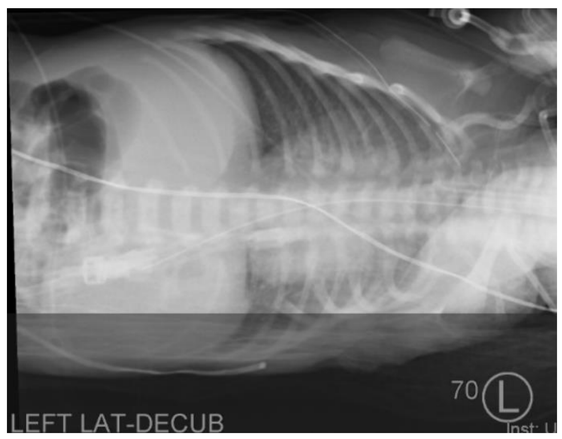

Figure 2: Prior to repeat needle decompression DOL 2

Level IV NICU Course

- **RESP:**
  - **DOL 1 0709-** Admission CBG 7.22/57/62/-4/23/1.2 on 6 L HFNC
  - Admission chest XR (**Fig. 1**) confirmed re accumulation of pneumothorax
  - Intubated on PC/SIMV 22/5 x 30 FiO2 100% and SaO2 80’s
  - Pre and post ductal sats monitored with no differential
  - Chest tube placed on right side shortly after admission
  - Transitioned to high frequency jet ventilator for air leak
  - Chest XRs trended throughout the day with persistent trace right basilar pneumothorax
  - FiO2 weaned from 100% down to 50% but then slowly increased back to 80-90% FiO2
  - **DOL 2 0050-** Attending notified that infants O2 saturations were in the 80’s with FiO2 90-100%, hypotensive and agitated
    - CBG 7.37/36/43/-4/21/1.5
    - NS bolus, Dopamine started (max 10 mcg/kg/min), fentanyl increased to 3mcg/kg/hr
    - UAC/UVC placed
    - Repeat CXR with trace residual right pneumothorax (**Fig 2)**
    - Repeat needle decompression, 240ml air removed with no improvement in oxygen saturations
    - Jet pressures increased, iNO started at 20ppm
    - SaO2 improved to 100% with weaning FiO2
    - Repeat CXR with no evidence of residual pneumothorax
    - Vecuronium drip started
    - First ABG 7.2/56/62/22/-6/0.7, follow up ABG 7.2/53/68/20/-8/0.6
- **CV**
  - DOL 2 at 0400 infant had persistent heart rate >220 after UAC placement that resolved with vagal maneuvers
  - EKG obtained and consistent with SVT
  - Hydrocortisone started and dopamine weaned off on DOL 2
- **FEN:**
  - NPO on admission, 60ml/kg/day TPN
  - Stable I/O
  - Normal electrolytes
- **ID**
  - Blood culture negative
  - Ampicillin/ gentamicin continued
- **Neuro**
  - Fentanyl 1mcg/kg/hr

- Further testing revealed the diagnosis…