**NOTE 8**

**PATIENT 1005**

**DATE: 5/9/20**

**Requesting Physician/Service**

NICU / 11Hale

**Reason for Consultation**

elevated TSH, question of vitamin D deficiency

**History of Present Illness**

Patient is an 80 day old infant born 24w2d for whom Endocrinology is consulted for abnormal state NBS for thyroid function and question of vitamin D deficiency.  He was admitted from the HOSP 1 NICU on 5/5 after worsening respiratory status.   
  
Patient's thyroid testing history is summarized below based on chart review.  Serum labs from yesterday are summarized below.  His medical history is notable for PDA s/p ligation, BPD on diuretics, h/o medical NEC now on NJ feeds with Ca and vitamin supplements, and improving direct hyperbilirubiemia.  He is currently taking 30mg/kg/d elemental calcium, DEKA plus vitamins (total vitamin D intake: 695 units/day per 5/9 nutrition note) , and 1mg/kg HCTZ.  No vitamin D levels are in our system.  He has been eucalcemic during this hospitalization.  He feeds 135 cc/kg/d of EBM 32kcal.  He has no history of contrast exposure at HOSP 2 but unknown imaging history at HOSP 1.  
  
No family is at bedside for supplemental history or family/social history.

**Assessment/Recommendations**

Patient is an 80 day old premature infant (24w2d) with elevated TSH and question of vitamin D deficiency.  His serum thyroid functon labs today are notable for a mildly elevated TSH and a normal T4.  This could be consistent with resolving non-thyroidal illness and is likely not consistent with congenital hypothyroidism, given previously normal TSH screen and the degree of elevation, iodine deficiency given his diet, or iodine excess given his lack of suggestive history.  Given his normal total T4, it is suitable to monitor him for resolution of his elevated TSH.  Patient's prematurity puts him at risk for metabolic bone disease and his protracted direct hyperbilirubinemia may make it more difficult for him to absorb vitamin D.  Measuring his vitamin D level would give us additional information about his overall bone health status.  
  
Recommendations:  
  
# elevated TSH  
- remeasure TSH, free T4 in 2 weeks (5/23)  
  
# vitamin D  
- follow up pending 25 hydroxyvitamin D status  
- agree with calcium and phosphorous supplements per nutrition  
  
Thank you for the opportunity to participate in this patient's care. These recommendations have been reviewed with the patient's primary team. Please page the Inpatient Endocrinology Fellow at p7703 with any questions.   
  
This case was discussed with Dr. Charles Johnson, Endocrine Attending.  
  
Carl Davids, MD, PhD  
Endocrinology Clinical Fellow  
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Attending: At the request of the NICU we provided consultation on baby Patient regarding his thyroid function studies and vitamin D status. I agree that the degree of TSH elevation and previously normal studies suggest a nonthyroidal illness picture and that a repeat level in 2 weeks may help further clarify if treatment may be needed. I also agree with optimizing vitamin D.  Please see Dr. Davids’s note above for full details.  I have reviewed the history, medical record, and prior investigations. I have examined the patient and participated in the plan of management. My interpretation of the test results and recommendations are outlined above; they have been communicated to the primary team.  I have reviewed and edited this report.  
   
Charles Johnson, MD  
Attending, Endocrinology   
b2752

**Problem List/Past Medical History**

Ongoing

ELBW - Extremely low birth weight infant

Premature infant

Historical

No qualifying data

**Procedure/Surgical History**

No Procedure History

**Allergies**

No Known Medication Allergies

**Medications**

Inpatient

caffeine (caffeine citrate), 20 mg = 1 mL, NJ, Q24hr

calcium carbonate, 75 mg = 0.3 mL, NJ, Q12hr

dexmedetomidine 400 mcg [1.2 mcg/kg/hr] + NS 100 mL

ferrous sulfate, 20 mg = 0.45 mL, NJ, Q12hr

glycerin (glycerin Supp Pediatric), 1 supp, PR, daily, PRN

heparin flush (heparin Flush 10 unit/mL), 20 unit = 2 mL, IV, Q8hr, PRN

hydrochlorothiazide, 2 mg = 0.2 mL, NJ, Q12hr

midazolam, 0.1 mg = 0.1 mL, IV, Q4hr, PRN

morphine (morphine IV), 0.12 mg = 0.06 mL, ICU-IV, Q1hr, PRN

morphine infusion 12.5 mg [0.06 mg/kg/hr] + D10W 50 mL

multivitamin with minerals (DEKAs Plus oral liquid), 0.5 mL, NJ, daily

proparacaine ophthalmic (proparacaine 0.5% ophthalmic solution), 1 drop, OPTH, 1time, PRN

senna, 2.5 mL, NJ, Q24hr

1/2NS 50 mL + heparin, continuous flush 25 unit

sucrose 24% oral solution, 0.4 mL, PO, Q2hr, PRN

Home

caffeine (caffeine citrate 20 mg/mL oral liquid), See Instructions

calcium carbonate

dexmedetomidine (dexmedetomidine 4 mcg/mL-NaCl 0.9% intravenous solution), IV, 1time

ferrous sulfate, See Instructions

multivitamin with minerals (MVW Complete Formulation Pediatric Drops oral liquid), See Instructions

ursodiol, PO

**Patient Language**

Preferred Language: English

Interpreter Needed (Patient): No

Interpreter Needed (Parent/Guardian): No

**Relevant Labs**

**Test Name Test Result Date/Time**

Creatinine 0.24 mg/dL 05/05/2020 10:14 EDT

Calcium 9.5 mg/dL 05/05/2020 10:14 EDT

Phosphorus 5.0 mg/dL 05/05/2020 10:14 EDT

Magnesium 2.1 mg/dL 05/05/2020 10:14 EDT

Alkaline Phosphatase 511 unit/L (High) 05/05/2020 10:14 EDT

Bilirubin, Total 1.4 mg/dL (High) 05/05/2020 10:14 EDT

Bilirubin, Total 1.4 mg/dL (High) 05/05/2020 10:14 EDT

Bilirubin, Direct 1.1 mg/dL (High) 05/05/2020 10:14 EDT

T4 (Thyroxine) 10.5 mcg/dL 05/09/2020 04:41 EDT

TSH (Thyroid Stimulating Hormone) 7.400 mcunit/mL 05/09/2020 04:41 EDT

HOSP 2 Labs:  
2/20 NBS – reportedly TT4 3.4  
3/20 NBS – reportedly normal  
4/19 NBS pending  
4/26 NBS pending  
5/9 serum TSH 7.4, TT4 10.5

Vitals & Measurements

**T:**36.7  °C  (Axillary)  **HR:**137 (Monitored)  **RR:**47  **BP:**65/35  **SpO2:**98% 