Primary Care of the Premature Infant

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I must confess, I was born at a very early age.

—Groucho Marx

Learning Objectives:
1. Understand how the nutritional needs of the premature infant differ from those of term infants
2. Review projected growth and developmental trajectories for premature infants
3. Identify recommended screening evaluations and immunizations for premature infants

Primary Reference:
   http://neoreviews.aappublications.org/content/15/4/e123.full.pdf+html

CASE ONE:

You receive a call from the Newborn Intensive Care Unit (NICU) about an infant to be discharged to your practice. Barry Early is a 75-day-old, former 28-week gestation, 1080 gram infant born by Caesarean section for breech presentation and preterm labor. Pregnancy was otherwise uncomplicated. Barry was intubated in the delivery room and later diagnosed with respiratory distress syndrome. Currently, Barry is on room air but his chest X-ray is consistent with mild bronchopulmonary dysplasia. He is tolerating oral feedings and taking Neosure 22 kcal/oz, 45-50 mL every 3 hours. His head ultrasound showed a grade 2 intraventricular hemorrhage on the left. He was diagnosed with stage 2 retinopathy of prematurity that was resolving on his last examination, and ophthalmology follow-up is planned for 2 weeks. Hearing and car seat screenings were passed prior to discharge. He is on no medications other than multivitamin drops. Barry will be discharged today to his family that includes his parents and 4-year-old sister.

Two days later, Barry comes to your office with his parents and sister who report that things are going well since his discharge. He has gained 45 grams and is eating 60 mL every 3 hours.

1. Although this is a happy occasion, what social concerns specific to families leaving the NICU should you explore?

2. Discuss the concept of “corrected age.” How does it apply to the different domains of health maintenance and surveillance (growth, development, etc.)?
3. Does breastmilk provide adequate nutrition for preterm infants? When should formula-fed preterm infants be switched to term formula?

CASE continued:

You review the vaccine record from the NICU and note that Barry received DTap, IPV, Hib, hepatitis B, and Pneumococcal 13-valent conjugate vaccines at 2 months of age. You notice that he did not receive a rotavirus vaccine.

4. Why did he not get the rotavirus vaccine while in the NICU? Will you offer any vaccines today? What other alterations from the standard childhood vaccination schedule will you consider?

CASE continued:

Barry returns for his well child check and 4 month vaccinations. When you saw him at 2 weeks post-discharge he was doing well and there were no concerns. He has gained 35 grams/day since his last appointment. Mrs. Early reports that he is still doing well overall but is concerned that “he has developed asthma.” He was in the Emergency Department last week for wheezing associated with an upper respiratory infection and was sent home with albuterol. He has returned to baseline and has not needed albuterol for the past 5 days.

5. How does the history of respiratory distress syndrome and bronchopulmonary dysplasia factor into the recent respiratory difficulties?
6. What anticipatory guidance will you provide related to introduction of solid foods at this 4-month visit?

CASE continued:

Barry continues with regular follow-up at your office and with the state early intervention program. At 8 months of age, he is starting to sit with support, is rolling both ways well, and is babbling and cooing. You notice some increased tone in his heel cords and hips, and his reflexes are mildly brisk.

7. How concerned are you about these findings?

8. What additional screening will you consider with a preterm infant?

Additional References:

Resources:
1. AAP 2014 recommendations for use of palivizumab in high-risk infants, young children. http://pediatrics.aappublications.org/content/134/2/415

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