

Case Study

Central Valley General Hospital/Adventist Health Efficacy case study of neoBLUE LED Phototherapy Lights • December 12, 2003

On Tuesday, at 1800 a 5-day old male, breastfed-only infant, weighing 8lbs 14oz, was admitted with a total bilirubin level of 29.0 mg/dL. The physician ordered double phototherapy lights and formula feedings q3hrs.

The infant was placed under two **neoBLUE** LED phototherapy lights immediately and formula fed every 3 hours as ordered.

A repeat total bilirubin level was drawn 6 hours after initiation of phototherapy at 1 am on Wednesday, and it was 23.0 mg/dL (a significant drop of 6 points).

The infant was kept under double lights and fed formula every 3 hours as ordered. On Wednesday, the 0700 bilirubin level 12 hours after initiation of phototherapy was 17.4 mg/dL (a drop of another 5.6 points).

Double phototherapy continued and another total bilirubin level was drawn 24 hours after initiation of phototherapy and it was 13.1 mg/dL (a drop of another 4.3 points, which brings the total drop in bilirubin to 15.9 points in 24 hours).

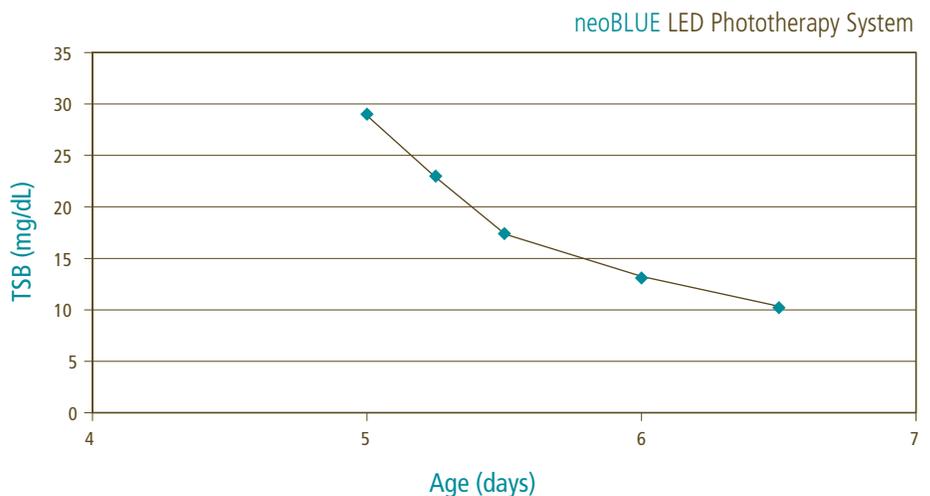
On Thursday morning, a final total bilirubin level was drawn at 0700 and the level was 10.2 mg/dL (a total drop of 18.8 points in 36 hours). The baby was discharged home with mother and breastfeeding was resumed.

On the following Monday (6 days after admission and 4 days post discharge), a follow-up total bilirubin level was drawn and found to be 14.0 mg/dL. The nursing staff, pediatrician and the family were elated that the infant did so well.

With an admission bilirubin level of 29 mg/dL, the pediatrician and I (OB director) expected the infant to require an exchange transfusion (per AAP guidelines) and at the minimum, a 3-5 day stay to receive double phototherapy. The neoBLUE phototherapy lights cut that length of stay to 2 days, and the infant did not require any supplemental IV hydration. Amazing!

Kristen Johnson RN, BSN, MHA,
Director of Women's Services

Dr. G. Patel,
Pediatrician



Case Study

Kaiser Permanente Orange County case study of neoBLUE LED Phototherapy • August 2003

Baby Girl A was delivered on August 13 at 1:23 am at 39 5/7 weeks gestational age with a birth weight of 3916 grams. Mom's pregnancy was complicated by hypertension, but she was not treated with medications. Baby A was breast feeding at the time of hospital discharge on August 14. She was noted to have a cardiac murmur but no additional workup was indicated.

Baby A was seen as an outpatient the day following discharge on August 15. Her mother reported that baby A had not been breast feeding well and that she didn't think that her breast milk was in. Baby A was notably jaundiced, and her total serum bilirubin returned at 20.7 mg/dL with a direct component of 1.6 mg/dL at about 60 hours of age. She was referred to the NICU for admission and phototherapy.

On examination, her weight was 3590 grams, which was decreased 8% from birth weight. She had normal vital signs and was vigorous, with no signs of birth trauma. Her murmur was still present and a cardiac workup was initiated. Lab work at approximately 72 hours of age revealed a hematocrit of 54% and a serum sodium of 146 meq/L. Her hyperbilirubinemia was confirmed at 19.0 mg/dL, her direct antiglobulin test was negative, and mom's blood type was B positive. Treatment was initiated with **neoBLUE** phototherapy at an intensity of 35 uW/cm²/nm, and she was offered formula feedings for rehydration.

After 10 hours of treatment the TSB was decreased to 14.4 mg/dL. Treatment was discontinued after 16 hours with a TSB of 10.9 mg/dL. Baby A was feeding and voiding well and breast feeding was resumed. On August 16, her discharge weight was 3590 grams. Her cardiac evaluation revealed a VSD on echocardiography, and she will be followed by a cardiologist. Outpatient follow-up within 48 hours was arranged with her pediatrician.

Dr. S.K. Bosu,
Chief of Pediatrics

