State Advisory Council on Hereditary and Congenital Disorders

Minutes April 1, 2014

Members Present
Anne Eder, Chair
Erin Strovel, PhD
Hilary Vernon, MD, (nominee to Council)
Neal Porter, MD
Sandra Takai, MD

Staff
Johnna Watson, RN (scribe)
Linda Lammeree, RN
Angela Sittler
Tina Wiegand
Roya Alborz

Members Absent
Delegate Shirley Nathan-Pulliam
Coleen Giofredda
Caryl Siems
Anika Wilkerson

Guests
Carol Greene, MD
Ada Hamosh, MD
Ben & Kathleen Smith
Melissa Crandall
Ilise Marrazzo
Debbie Romanoski,
Senator Dyson's office
Barbara Burton, MD (phone)
Maria Escolar, MD (phone)
Mimi Blitzer, PhD (phone)
Delegate O'Donnell (phone)

Ex-Officio Present
Lee Woods, MD
Fizza Majid, PhD
Deborah Badawi, MD

Call to Order – 6:00 pm

I. Welcome and Introductions
Members and attendees introduced themselves.

II. Approval of February 2014 Minutes
Minutes reviewed and approved.

III. Old Business

- **Update on SCID supplemental funding**
  - In Dr. Meyers absence, Dr. Majid reported that there is no new information to report on the effort to obtain this funding.

- **Review of SB433/HB891 and actions to date**
  - Dr. Badawi reported that two bills were introduced in the legislature to include screening for five lysosomal disorders, including Krabbe Leukodystrophy, to Maryland's Newborn Screening Panel.
  - Hearings have been held in both the House and the Senate but there has been no cross-over of the bills at this time.
  - Dr. Badawi reported that, as a result of a meeting that took place with Delegate Hammen, the Council will address each of the five disorders, discuss current research and literature to date, and vote on whether the disorder should be added.
  - Plan is to address one disorder at each meeting. Krabbe will be addressed this evening.

- **Newborn Screening for Krabbe Leukodystrophy**
  - Slide presentation given by Dr. Hilary Vernon (copy of slides attached)
  - Slides included current article review, telephone interview with Dr. Escolar (Pittsburgh) regarding data that is currently being prepared for publication, and telephone interview with Dr. Kurtzberg (Duke).

- **Discussion**
  - Dr. Porter pointed out that the animal studies included in the presentation show that drop off of function occurred. It is not known if and/or when human decline will occur since the population in the published studies are too young at this time.

  - Dr. Greene stated that some siblings with the same gene have different outcomes. The Federal Advisory Council determined there is not enough clinical data at this time to determine outcome of disease process at birth.

  - Outcomes of the patients seem to be better in infants diagnosed secondary to an older sibling's diagnosis or in utero because the transplant occurs earlier in life.

  - Dr. Escolar indicated that no patient is 100% normal but there are better outcomes with the new protocol that is pending publication.

  - Mrs. Smith stated that she had difficulty getting Lily in to see subspecialists after developmental changes occurred. Lily's transplantation process was completed in the interim between requesting an appointment and obtaining the appointment. She further stated that if Lily was screened at birth, her outcome would be better.

  - Dr. Badawi emphasized the importance of identifying a baby without an older sibling in a timely manner. The issue with newborn screening is turn-around time to confirm a result and complete confirmatory testing. Babies identified through newborn screening began treatment ranging from 2 weeks to 2.5 months of age.

  - Dr. Greene indicated that the major issues involve mobilization of resources. A prenatal diagnosis saves time, but babies identified by newborn screening could be transplanted by 2 weeks of age. The difficulty is determination of the onset of symptoms. There are well documented studies that show that onset of symptoms varies in families.

  - Dr. Escolar responded that, in her experience, there was one family that had cousins with variation of onset, but siblings have presented the same.

  - Dr. Greene asked Dr. Escolar if transplantation is still a clinical trial. If so, this causes a problem with insurance coverage. Dr. Escolar answered that the first transplantation protocol that was started 10 years ago is now a standard of care. The reduced toxicity regimen, that is currently being introduced, has an increased survival rate but it is currently a clinical trial.

  - Dr. Burton, a geneticist from Hunter's Hope, and a strong advocate for newborn screening for lysosomal storage disorders, gave an update on screening in Illinois. A trial will begin in May and full implementation will begin in July. Testing is to be done by MS/MS, and DNA is being sent to New York. Dr. Burton reported that Missouri's trial is 1.5 years old. This state has transplanted two children, one is a sibling of an affected child, a 2nd grader who walks with a walker. The first transplanted child did not survive.

  - Dr. Greene mentioned the possible effect of false positives on families. There should be a study on the 15-18 moderate and high-risk individuals who do not meet the criteria for transplantation.

  - Dr. Hamosh indicated that there is a 50% mortality rate for children identified through newborn screening, and treatment is not totally successful. Families with an affected child always want to know, but not all families want to know, particularly if they are at moderate risk. She described how a family brings an infant home, is notified of an abnormal screen, has all the tests done, and then is told that their baby may or may not have symptoms and is not a candidate for transplantation.

  - Mr. Smith stated this is the same situation if the family has an amniocentesis. They have to determine whether or not to take the risk.

- Dr. Escolar stated that a 50% mortality rate is not accurate because there are a smaller number of patients.

- Dr. Hamosh added that it was thought that 90% of identified Krabbe are early infantile but the 2006 data indicated that 90% are actually late onset. The Federal Advisory Council did not think it was time to implement screening for Krabbe. She stated that Maryland is not ready for implementation at this time. Screens have to be tailored to the population. For example, when screening for cystic fibrosis was started, MD had to tailor the screening to IRT/IRT because of the large African-American population in the state.

- Dr. Greene stated that those patients identified with moderate to high risk for Krabbe are "a ticking time bomb". Patients with late onset have symptoms that are more severe and rapid in onset.

- Dr. Escolar indicated that late onset can respond well to transplantation. Families are doing well watching for symptoms, and they should be able to have the choice whether or not to treat.

- Mr. Smith indicated that treatment is currently in the infantile state and will only improve. Maryland should step up and lead in the area of newborn screening.

- Delegate O'Donnell asked when the most recent clinical study will be published. Dr. Escolar responded that it is under review now and should be published in two months. Data was included in today's slide presentation.

- Anne Eder requested that the slides be distributed to the council members.

- Dr. Greene proposed testing for Krabbe only for the families who give consent. Dr. Majid indicated Maryland has never had this type of model before. Dr. Greene indicated Massachusetts had this type of model when mass spectrometry was being introduced. There would need to be a robust educational campaign for hospital staff and a separate blood spot collected if parents consented. Ilise Marrazo, of DHMH, asked if there was any way to look at the fiscal impact of the segregated testing and how the model was started in New England. Dr. Majid will obtain this information for review.

- Following a lengthy discussion, Anne Eder stated that the Council did not appear ready to vote. Additionally, there were only four of the nine voting members present, so the Council was absent a quorum. Further information is needed. Anne noted that the next meeting will be in June, but the Council may need to meet before then to continue its discussion. The Council also needs to explore the possibility of testing only those patients who have consented for the testing.

- Dr. Porter stated that he is undecided on how to vote and not sure if any data will be available in two months.

- Dr. Burton indicated that newborn screening is conducted for lots of diseases that are not curable. Some patients still die or require a lot of medical interventions. Treatment for Krabbe changes the course of the disease. Dr. Escolar stated that there is no question that treatment works.

- Delegate O'Donnell requested to be kept in the loop if another meeting is scheduled prior to June.

- Anne Eder indicated that she will keep everyone informed regarding the next meeting date. It is likely that this meeting will be June 24th.

VI. Next Meeting

- Planned for June 24, 2014

VII. Adjournment– 8:00 PM

- Meeting adjourned.