

LSD Subcommittee Meeting at Ann & Robert H. Lurie Children's Hospital of Chicago
May 17, 2013
Conference Room 11-152

10:00 AM – 10:15 AM

Barbara K. Burton, MD – Lurie Children's Hospital

- Welcome
- Discussed update on the status of LSD Newborn Screening (NBS) in the various states within United States
- Brief discussion on Secretary's Advisory Committee on Heritable Disorders in Newborns and Children – voting to be held to recommend that to HHS that Pompe be added to the Recommended Uniform Screening Panel (RUSP) for all newborns born in the U.S.

10:15 AM – 11:20 AM

Kathy Grange, MD – Washington University, St. Louis, Missouri

Presentation on LSD NBS in Missouri

- Review of Handout: Total Specimens Screened in Missouri as of May 16, 2013
 - Discussed numbers tested positive versus confirmed
 - Approximately 28,500 have been screened since the beginning of the program in January, 2013
 - Using the ALL microfluidic method – 48 specimens per cartridge, 4 disorders currently (Fabry, MPS I, Pompe, Gaucher)
 - Krabbe being done currently in NY State lab
- Fabry
 - Raised issue of enzyme cut-off
 - Not getting false positives; concern might be missing cases; cutoff may be too low so it was recently revised
 - Good to see some false positives
 - Higher levels of enzyme activity observed in premature infants – may need separate cutoff
- Hurler
 - Finding high frequency of pseudo-deficiency in African American population; urine GAG's and mutation testing helpful in identifying these cases as urine GAG's are normal
- Pompe
 - Several patients detected now on treatment
 - Late onset cases also detected – discussion of when to treat
- Gaucher – very few false positives to date; no cases detected
- Krabbe
 - Discussed cases currently detected – none with EIKD. Using MRI/DTI protocol from Maria Escolar for followup. Invasive testing at time of initial evaluation; only neurologic exam and MRI subsequently unless clinical findings
- Enzyme activity goes down with increase in age in all conditions EXCEPT Hurler
- January 2014: new ALL cartridge schedule to be delivered – will allow screening for Niemann-Pick, Hunter and Krabbe. At that time state will be testing for 7 LSDs.

- Q & A with attendees:
 - Does false positive have a psychological impact?
 - Pseudo-deficiency: low enzyme activity, polymorphisms in DNA, but no clinical phenotype
 - Offer testing for extended family in case of Fabry

11:20 AM – 12:05 PM

Khaja Basheeruddin, PhD – IDPH Division of Laboratories

Illinois State Program Update

- Reviewed development of methodology for LSD NBS in Illinois NBS lab
- Awaiting delivery of additional mass spec machines
- Once machines delivered and validated, pilot project will begin at two Chicago hospitals. Once completed, testing will be extended to all newborns- no later than June 2014. Pilot will most likely begin in early 2014.
- MPS II substrate – not successful on tandem mass spectrometry. Initial testing will include 6 LSD's.
- Not much success on multiplexing the sulfatase (MPS) enzymes with the other enzymes → 2nd punch? 2nd instrument? Might require 2nd cartridge
- Education materials in development → formalization of follow-up guidelines

12:05 PM – 12:35 PM

Lunch Break

12:35 PM – 1:00 PM

Shanna Widera, MS, APN – Lurie Children's Hospital

Case Report for Fabry Disease

Review of Fabry disease

- NBS for Fabry disease leads to ID of affected infant → extensive investigation of maternal relatives → ID undiagnosed relatives (symptomatic and asymptomatic)
- Affected Fabry relatives are candidates for ERT once diagnosed
- Early diagnosis = early intervention = improved health outcomes

1:00 PM – 1:30 PM

Barbara K. Burton, MD – Lurie Children's Hospital

Review of Draft Protocols with subcommittee

- MPS I
- MPS II
- Krabbe
- Gaucher
- Pompe and Proposed Disease Algorithm
- Fabry
- Overall, subcommittee approves draft versions. Minor changes will be made and sent back for further review and approval.
- ***1:25 PM:** Announcement that a majority of the committee members voted 11:2 in favor of the proposal to recommend to the Secretary of HHS the addition of Pompe disease to the uniform NBS panel.

1:30 PM *Meeting adjourns*