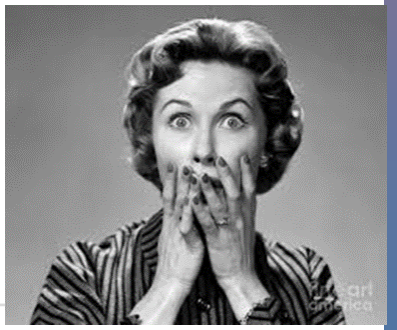
Implications of Pica: A Unique Perspective for Collaboration

Overview

- Referral of pregnant mother to DPH/Uncas Health District
- Mother's history of pica
- LHD's action to protect mother
- A newborn with an EBLL– now what
- Chelation conundrums
- DCF relocation to Chatham Health District
- Collaborative efforts

Referral of pregnant mother to Uncas Health District

- 5/8/19 During daily review of labs received I found a lab (draw date 4/29/19) for a 38 year old female with a venous level of 42 µg/dL, ordering provider was OB-GYN practitioner
- My mind was racing about how this could have happened, “must have ingested something?”, “occupational exposure?”, but surely this was a pre-natal screening and a great catch by the OB-GYN
- I contacted the OB-GYN provider to find out a little more
  - 38 year old female G6 P4 A2 is at 38 weeks gestation with pica
  - Her item of choice – soil (eaten from her yard on the property she was renting)
  - This piece of info was shared on her last OB visit (4/29/19), which is what prompted the level to be drawn (so late in the pregnancy)
  - She was scheduled for induction on Monday 5/13/19



Referral of pregnant mother to Health District

- 5/9/2019 Spoke to Dr. Haile at Regional Lead Treatment Center about child. Provided her with as much information as possible to help her prepare for arrival of this child once born.
- Contacted OB-GYN office to ensure there was plan in case baby arrived prior to induction, i.e. LHD notified, DCF referral made, transfer of child to CCMC. They advised me that Social Services Department was fully aware and there was a solid plan in place.
- DCF referral made related to concerns about the 3 siblings that were not yet located, and for which I had no names. I did have DOBs and the sex that matched each DOB. I also now knew that the 11-year-old female child that also has pica.
- 5/10/2019 DCF referral was rejected about 12 hours after I made it.
- 5/13/2019 At the hospital for New Parent Orientation event. Met with NNP who was on call for birth. She reviewed case info with me and advised that Mom's lead level had been drawn, but results were still pending. NNP had already been in contact with Dr. Haile and they were working on a plan for baby.
- 5/14/2019 Baby is born. DCF referral made again and accepted.

Referral of pregnant mother to Health District

- 5/15/19 Spoke with Kim at DPH. We were able to search Maven and locate the 3 siblings.
- DCF had noon appointment with parents. Caseworker contacted me to advise there was a lot of renovation work done on the adjacent property, with some debris noted on Mom's home property.
- Dave Coughlin and I conducted a site visit and noted a complete overhaul of the house adjacent. Both parents came outside while we were there. Mom spoke up first and stated her child was "in the hospital with a lead level of 89 µg/dL".
- Mom's house looked in disrepair on the outside, the inside was a pleasant surprise! Neat, clean, some areas of defective paint, but Dave and I have both seen much worse.
- Mom identified where she was eating soil, initially closer to the front of the house, in the area adjacent to the recently renovated house (D side). Composite soils sample results came back at 1,060 mg/kg.
- The secondary location was in the driveway (C side). Grab samples ranged from 138-506 mg/kg and were collected between 5-19 feet from the entryway.


Well...
at least things can't get worse.
Right? Right??

Mother's history with pica

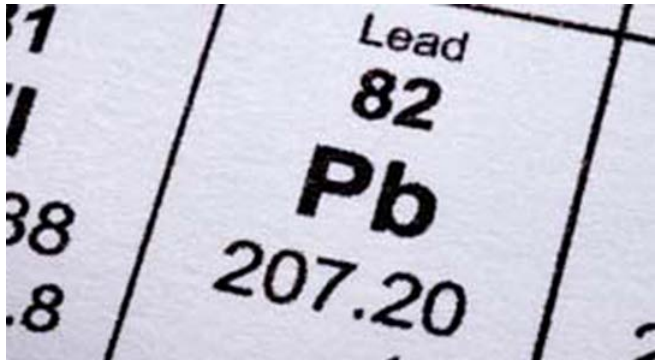
- Mom had prior episodes of pica, most of them triggered by her pregnancies
- Mom stated that she "can smell it in the air, especially after it rains", which then leads to an "overwhelming urge" to go to the source and eat it
- She admitted to eating about 4-5 cups of soil per day
- Mom has an aunt that also suffers with pica
- Mom also has a child that has pica – her item of choice is wood
- This child was the only one that had EBLLs during early childhood
- Mom had a subsequent level drawn just after admission for her induction that was even higher at 61 µg/dL
- This led us to believe that she had ingested soil even after realizing her level was elevated from 4/29/19
- What would that mean for baby???

LHD's action to protect mother

- During the inquiry with OB-GYN and with the Mom directly, several other things were in play that were of concern, aside from the potential EBLL for baby
- Mom had been incarcerated twice, with her last release in August of 2018, she became pregnant about a month after her release
- Mom had a history of IV drug use and took Suboxone throughout her pregnancy
- Contacted Amanda DeLoreto at DPH Adult Lead Program to advise of the case and we determined that we needed to also advise Childhood Lead Program to help develop a plan for the arrival of this baby
- Reached out to Mother-to-Baby about information related to breast feeding in light of both Mom (and potentially baby) having EBLLs and also spoke with Dr. George Moore from UCONN to inquire about toxicological impacts of pica, he was very helpful and suggested a multi-disciplinary approach to the pica for Mom
- I was concerned that stress related to child's health concerns, immediate transfer of baby to CCMC, might trigger relapse in Mom for IDU with a potential for OD

A newborn with an EBLL – now what

- I was notified of the baby's impending birth and began to do some research and reach out to colleagues in the area
  - Congenital lead toxicity is **RARE**
  - No protocols exist
- Baby was clinically stable when born



Chelation Conundrums

1. STAT lead
   - Numerous phone calls to determine how we were going to get a STAT lead on the baby that was born at outside hospital
   - DPH Lab in Rocky Hill agreed to run the lead same day and did throughout the hospitalization at CCMC
   - Maternal venous lead was drawn at delivery and sent out to Quest (3 days later resulted at 61 µg/dL)

Chelation Conundrums

2. Baby's lead level of 89 µg/dL from an outside hospital
   - Transferred to the CCMC NICU
   - Pharmacy confirmed having:
     - Dimercaprol
     - 5 days of intravenous Ca2EDTA

Chelation Conundrums

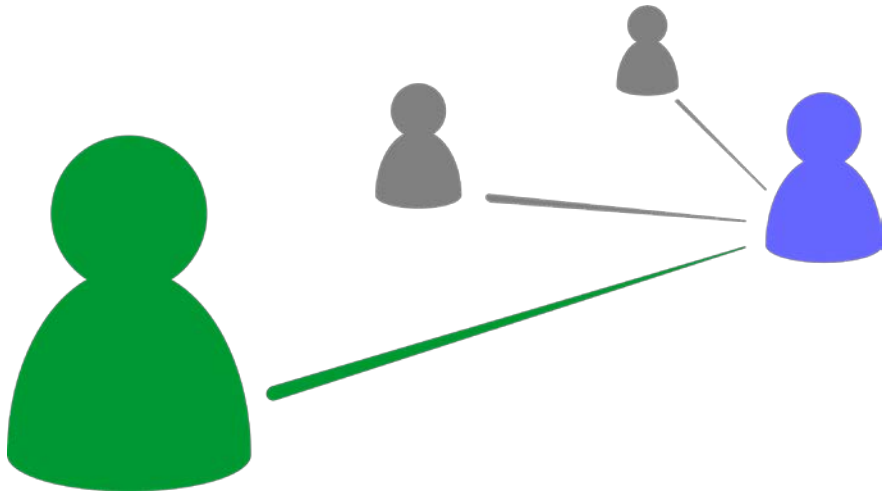
3. Chelation protocol
   - Does not exist – coordination with Yale, BCH and CHOP
   - When lead levels are greater than 70 µg/dL, there is a high risk of encephalopathy and death
   - Chelation guidelines by the CDC
     - Dimercaprol and Ca2EDTA
       - Received 9 doses of intramuscular Dimercaprol
       - 5 days of intravenous Ca2EDTA
     - Side effects of medications
       - Dimercaprol – IM injection
       - Ca2EDTA – cardiac arrhythmia, IV site infiltration

Chelation Conundrums

4. Rebound
   - After completion of this regimen, his lead level was 33.5 µg/dL
   - 72 hours later the blood lead level rebounded to 46 µg/dL
     - A 19 day course of Succimer was initiated
   - Succimer
     - Mode of administration
     - Side effects – low white blood cell count, increased liver enzymes

Chelation Conundrums

5. Relocation and social circumstances
   - Maternal mental health and drug use
   - Lead safe environment



DCF relocation to Chatham Health District

- Urgency to discharge and relocate
- Lead inspectors all away
- Basic inspection needed – visual and dust wipes
- Communication with foster parents
- Partner with Uncas Health District – Alyssa Brochu **(THANK YOU!)**

EBLL over 20 µg/dL (rebound at foster home)

- “New Case” in Chatham Health District
- Full investigation required
- Exposure and Risk vs. State Regulations
- Home built in 1976
- Any lead found?

Collaboration

Collaborative efforts

- With a case like this, each partner plays a key role
- Each partner is a piece of the puzzle
- If one piece of the puzzle is missing, the whole picture does not come together

RLTC

Sanitarian(s)

Public Health Nurse(s)

Director(s) of Health

Parents/Foster Parents

DCF

DPH Lead Program and DPH Lab

Physician(s)

Property Owner(s)

Collaborative efforts

Collaboration is important.

It helps us to:

1. problem solve
2. work together
3. open up channels of communication
4. be more efficient

IT TAKES A VILLAGE……

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