

Succimer Chelation Therapy Safely Used for Lead Poisoning in Pregnancy

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Background

The 2008 National Health and Nutrition Examination Survey suggested that ~1% of women of childbearing age have elevated blood lead levels (BLL). Although research is lacking, edetate calcium disodium is the preferred chelating agent because of its familiarity in this setting. There is a paucity of cases utilizing succimer (DMSA) during pregnancy; one case demonstrated no improvement in maternal BLL.[†]

Case Report

- 19-year-old female (G1P0) at 27 weeks gestation (WVG) presented to her obstetrician with bone pain reminiscent of elevated BLL. Her BLL at 28 weeks gestation was 42.9 mcg/dL.
- At age 4, she had been repeatedly treated with DMSA. At age 15, her levels plateaued near “normal” after removal of a tongue stud that contained lead.
- Her BLL reached 101 mcg/dL at 34 WVG and medical toxicology was consulted.
- The patient refused hospital admission and was started on DMSA at 500 mg every 8 hours for 5 days and then every 12 hours for 2 weeks at home.
- After completing DMSA and removing 2 new tongue studs, her BLL was 32 mcg/dL.
- She was induced at 37 WVG, and a 2,790 gram baby boy was vaginally delivered with APGAR scores of 9 at both 1 and 5 minutes.
- Cord and neonate BLL were 46 and 50 mcg/dL respectively. DMSA was started at birth and given for 19 days, after which his BLL was 33 mcg/dL.

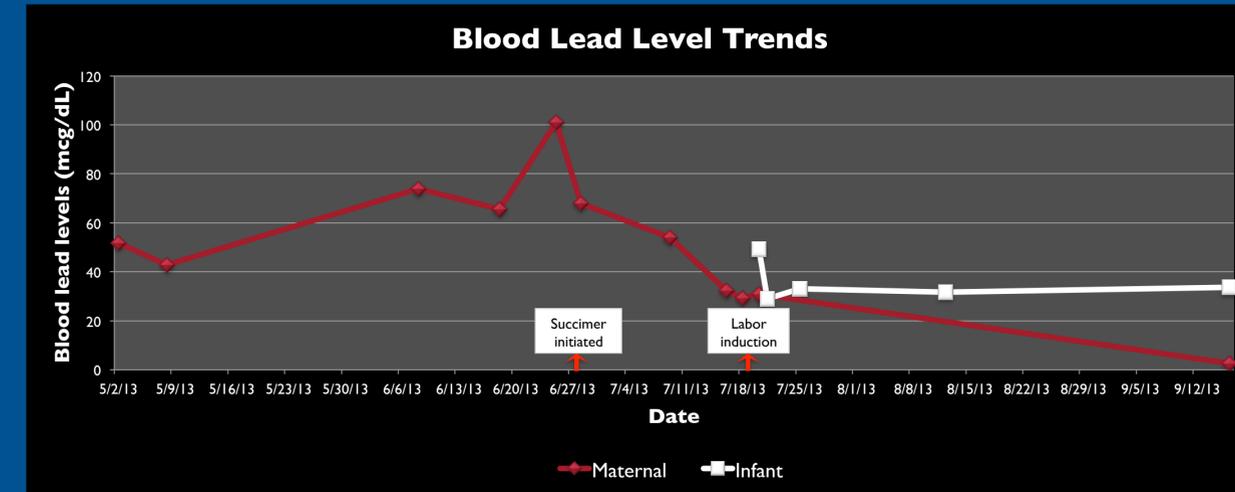


Figure 1. Maternal and infant blood lead level trends before and after DMSA administration.

Discussion

The tongue studs were not verified lead sources, however the patient's home revealed no source. A prior case of DMSA prenatal chelation (maternal BLL: 44 mcg/dL at 7 months gestation) resulted in cord BLL of 126 mcg/dL at 37 WVG. The infant was “normal” per pediatrician at 6 months.[†]

Conclusion

Although one prior case report lacked significant improvement in maternal BLL after DMSA chelation, our case demonstrates that DMSA is a viable and safe option in pregnancy. Source removal remains most important in lead poisoning management.

Reference

[†] Horowitz BZ, Mirkin DB. Lead poisoning and chelation in a mother-neonate pair. Clin Tox (2001) 39; 7: 727-731

Acknowledgements:

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