

Scientific Study

Chelation Effective for Autism

Two new research studies investigating the effects of chelation therapy on the health and behavior of children with autism spectrum disorders have discovered that the children receiving chelation had significant all-around improvements.

Autism is a developmental disability characterized by social withdrawal, communication deficits, and repetitive behaviors. Both genetic and environmental factors have been implicated as causes of autism, though a high body burden of mercury and other toxic metals from vaccinations and environmental exposures has been increasingly given more attention.

Major sources of exposure to mercury include seafood, mercury dental amalgams, and thimerosal in vaccines.

Heavy metal toxicity in autism may be due to either a high exposure or a decreased ability to excrete heavy metals. Infants are notoriously more susceptible to low excretion because they do not produce enough glutathione. Glutathione binds to toxic metals so they may be eliminated via the liver excretion known as bile.

Mercury is often excreted from the body via hair. Adams and colleagues cite, "children with autism had only 1/8 the normal amount of mercury in their baby hair" and "a significant inverse correlation in the severity of autism and the level of mercury in the hair, suggesting that the children with the weakest ability to excrete mercury developed the most severe symptoms" of autism.

Dimercaptosuccinic acid (DMSA) is a chelation agent which binds to and removes heavy metals from the body. It preferentially binds to lead, but also increase the excretion of other toxic metals, including mercury.

Adams explains that "a decreased ability to excrete mercury should result in a higher body burden, and that was demonstrated in a study which investigated the effect of giving DMSA to 221 children with autism," explains Adams, "They found that the children with autism excreted 3.1 times as much mercury into their urine."

DMSA
APPROVED!

In the new studies, the administration of oral DMSA to autistic children led to a dramatic normalization of red blood cell glutathione and greatly improved abnormal platelet counts. Children with autism typically have very low or very high glutathione levels. After treatment with DMSA, glutathione levels normalized within the acceptable clinical range. Adams states that this is suggestive of a significant decrease in cellular inflammation which may be responsible for the dramatic improvements observed.

Overall, DMSA therapy seems to be reasonably safe, effective at removing heavy metals and reducing autistic symptoms.

Adams does caution that DMSA temporarily increases the loss of the minerals potassium and chromium, indicating a need to supplement with these nutrients during therapy.

References

Adams JB, Baral M, Geis E, Mitchell J, Ingram J, Hensley A, Zappia I, Newmark S, Gehn E, Rubin RA, Mitchell K, Bradstreet J, El-Dahr J. Safety and efficacy of oral DMSA therapy for children with autism spectrum disorders: part A--medical results. *BMC Clin Pharmacol*. 2009 Oct 23;9:16.

Adams JB, Baral M, Geis E, Mitchell J, Ingram J, Hensley A, Zappia I, Newmark S, Gehn E, Rubin RA, Mitchell K, Bradstreet J, El-Dahr J. Safety and efficacy of oral DMSA therapy for children with autism spectrum disorders: part B - behavioral results. *BMC Clin Pharmacol*. 2009 Oct 23;9:17.