

Autism, ADD/ADHD, and Related Disorders - Is a Common Childbirth Practice to Blame?

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Introduction

Autism is one of several behavioral and developmental disorders exhibiting defects in learning, language and behavior that merge, in the more severe cases, into mental deficiency. No specific brain lesion, anatomical or metabolic, has been defined as causal and the diagnosis is purely clinical.

However, children with brain lesions due to the disorder tuberous sclerosis are at particularly high risk of having autism.[1] This indicates that brain lesions, regardless of the cause, may induce autism-like symptoms.

The diverse symptoms of these disorders involving "higher" human faculties indicate diverse cerebral lesions, probably cortical, involving memory ability, storage and recall. This article presents compelling evidence that autism and related childhood disorders can result from brain damage caused by birth asphyxia - more specifically due to interruption of placental oxygenation at birth by premature umbilical cord clamping.

Asphyxia at Birth

Over thirty years ago, Windle produced spastic paralysis (cerebral palsy) in monkeys that were asphyxiated at birth by interrupting placental oxygenation and delaying pulmonary oxygenation; specific brain lesions were demonstrated at autopsy. [2]

Monkeys with minor degrees of neurological defect recovered much function (adapted to the permanent neurological defect) but showed a persistent defect in memory ability. When offered food placed in one of two containers, these primates very often could not remember the correct container when access was denied for one minute - they were correct only 50% of the time.

Normal monkeys that had not been asphyxiated at birth chose the correct container over 90% of the time. The asphyxiated monkeys, in effect, had learning disabilities and could not keep their attention focused on a food container for one minute.

At natural (normal) birth with natural closure of the umbilical vessels (no cord clamp used), neonatal asphyxia is avoided because placental oxygenation continues - the cord pulsates - until pulmonary oxygenation is established. During this time, a large amount of placental oxygenated blood is transfused into the child; this additional blood volume is used to establish pulmonary circulation and pulmonary oxygenation. After the lungs are functioning, the cord vessels close reflexively.

Cord clamping before the child has breathed and while the cord is still pulsating causes a period of asphyxia until the lungs begin to function; it also aborts placental transfusion leaving the child hypovolemic (low blood volume) and prone to anemia as a large amount of iron is left in the placenta. Deficient pulmonary blood flow may delay pulmonary oxygenation.

The "bottom line" is that immediate cord clamping followed by sufficient delay in pulmonary oxygenation will produce permanent hypoxic brain damage. [2]

Anemia - Cause or Effect?

Lozoff and others have numerous publications correlating infant anemia with childhood and grade school learning and behavioral disorders to the point of mental deficiency. [3] The degree of infant anemia correlates with the degree of mental deficiency. [4] Unfortunately, the early diagnosis and correction of infant iron deficiency anemia do not prevent the appearance of these grade school mental problems. [5]

Premature infants, who routinely have their cords clamped immediately, almost universally become anemic in the NICU, where the anemia is promptly corrected, sometimes by blood transfusion. However, despite prompt treatment they have poor mental achievement outcomes through young adulthood. [6] This strongly indicates that asphyxia due to immediate cord clamping, not anemia, causes mental impairment.

At normal birth, no newborn has iron deficiency anemia; adequate iron is supplied from the mother regardless of her iron status. Any newborn that receives a full placental transfusion at birth has enough iron to prevent anemia during the first year of life. [7]

It is, therefore, reasonable to conclude that full placental transfusion (continuous oxygenation during birth, natural cord closure) will prevent the autism, mental retardation, behavioral disorders and learning disabilities that

occur following infant anemia. In other words, infant anemia and autism are both caused by immediate cord clamping - the anemia by loss of blood volume and the autism by asphyxia.

How to Prove an Association Exists Between Birth Asphyxia And Autism

Immediate cord clamping is now a very common practice and occurs in almost all modern obstetrical births. It is routine when an NICU team is present at an "at risk" birth and is mandated by ACOG for cord blood pH determination. [8] In current obstetrical practice, natural (physiological) cord closure is almost never allowed to occur; obstetricians and pediatricians in general are completely unaware of any danger incurred by immediate cord clamping.

In general, the incidence of autism has paralleled the incidence of immediate cord clamping, and supports the conclusion that autism results from birth asphyxia caused by immediate cord clamping. Additional proof should be available from birth records:

- Autism should correlate with birth records of premature cord clamping or with circumstances that confirm immediate / early cord clamping.
- Autism should not correlate with natural cord closure or with a newborn that cries quickly and has a five-minute Apgar score of 9 or 10.

Despite the fact that time of cord clamping is not normally recorded, many factors at the birth indicate that the child was subject to some degree of asphyxia from early cord clamping, and many parents can recall the event of cord clamping:

1. Was a cord pH sample taken at birth?
2. Was an NICU team present at birth?
3. Was there any fetal distress during birth?
4. Was there meconium staining of the fluid?
5. Was the child resuscitated immediately after birth?
6. Was the child given oxygen?
7. Did the baby start crying after being separated from the mother?
8. Was the baby born by Cesarean section?
9. Did the baby become anemic?
10. Did the baby receive a blood transfusion or a blood volume expander?
11. Was the five-minute Apgar score less than 8?
12. Was the baby born prematurely?
13. Was the child admitted to the NICU?

A predominance of "yes" answers to the above questions for autistic children, compared to the general population, would strongly indicate that autism and related childhood developmental and behavioral disorders can result from hypoxic brain injury at birth caused by immediate cord clamping.

Discussion

A recent Japanese study found an increased risk for autism in NICU babies, particularly with meconium staining of the fluid. [9] Meconium staining indicates fetal distress / in-utero asphyxia and these babies typically have immediate cord clamping for resuscitation. The study provides very positive "YES" answers to the above questionnaire and is very compelling evidence that neonatal asphyxia and immediate cord clamping can cause autism.

Summary:

- Brain lesions are associated with autism and related disorders[1].
- Hypoxic brain lesions in monkeys are associated with intelligence/memory defects similar to autism. [2]
- Immediate cord clamping causes newborn hypoxia.
- Placental oxygenation until the lungs are functioning prevents newborn hypoxia.
- Placental oxygenation until the lungs are functioning should prevent autism that is caused by hypoxic brain lesions.

Articles with full references that explain statements in this article are available at:
www.CordClamping.com <http://www.adhdnews.com/testforum/test16769.htm>