

**TENNESSEE DEPARTMENT OF HEALTH AND ENVIRONMENT
OFFICE OF THE STATE MEDICAL EXAMINER
Center for Forensic Medicine
850 R.S. Gass Blvd.
Nashville, Tennessee 37216-2640**

**CASE: MEC03-1490
County: COFFE**

AMENDED AUTOPSY REPORT

NAME OF DECEDENT: HOUSER, WILLIAM RACE: White SEX: Male AGE: 10 weeks

HOME ADDRESS: 248 Spring Meadows Road; Morrison, TN 37357

DATE AND TIME OF DEATH: June 3, 2003 at 8:58 p.m.

DATE AND TIME OF AUTOPSY: June 4, 2003 at 1:30 p.m.

FORENSIC PATHOLOGIST: John E. Gerber, M.D.

COUNTY MEDICAL EXAMINER: Al R. Brandon, M.D.

ADDRESS: 1910-B McArthur Drive, Manchester TN 37355

DISTRICT ATTORNEY GENERAL: Honorable Michael Layne

ADDRESS: P.O. Box 147, Manchester TN 37355

AMENDED REPORT

After extensive personal review of this case and consultation with multiple other forensic experts, I have come to a different conclusion regarding the pathologic diagnoses, cause of death, and manner of death in this case.

Mark Becher, M.D., a neuropathologist in the Department of Pathology, Vanderbilt University, was consulted by me on this case. He has reviewed gross photos, microscopic slides, and the relevant clinical history on this case. He has also performed special stains on two of the paraffin embedded tissue blocks from the autopsy. The findings on the case including gross photographs and microscopic slides were also shown to and discussed with the other forensic pathologists at the Tennessee State Medical Examiner's Office.

The revised changes are presented below.

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ORIGINAL PATHOLOGIC DIAGNOSES LIST

- 1. Multiple acute and chronic blunt force injuries of head:
 - A. Bilateral diffuse patchy acute subarachnoid hemorrhage.
 - B. Bilateral acute subdural hemorrhage (approximately 10 cc of liquid and clotted blood).
 - C. Acute perioptic nerve hemorrhages (right greater than left) and right retinal hemorrhages.
 - D. Patchy brown golden discoloration primarily on the right posterior parietal occipital region and posterior medial occipital region on the left side.
 - E. Bilateral tan green cystic changes of the right temporal lobe (4 x 6 cm.) and left temporal lobe region (2.5 x 4 cm) with glial scar formations.
 - F. Old patchy golden brown discoloration in a diffuse distribution in the subdural regions, right greater than left.
- 2. No congenital anomalies.
- 3. Organ weights within reference range for a 3 month old.
- 4. Height and weight -- 10th percentile.
- 5. Medical therapy.

REVISED PATHOLOGIC DIAGNOSES

- 1. Probable congenital birth defects of brain:
 - A. Bilateral moderate sized cystic infarcts involving bilateral temporal lobes and bilateral parietal lobes:
 - 1. "Watershed" distribution region.
 - 2. Organizing small subdural hemorrhage with neomembrane formation related to the infarcted brain areas:
 - a. Small amounts of acute hemorrhage associated with subacute subdural membrane.
 - B. Associated conditions:
 - 1. Mild to minimal subarachnoid hemorrhage around the base of the brain.
 - 2. Bilateral optic nerve sheath hemorrhages, right greater than left.
 - 3. Rare right retinal hemorrhage:
 - a. Focal calcifications in retina bilaterally.
 - 4. Height and weight -- 10th percentile.
- 2. No other acute trauma identified in the rest of the body.

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ORIGINAL CAUSE OF DEATH:	Multiple acute and chronic blunt force injuries.
REVISED CAUSE OF DEATH:	Complications of congenital bilateral cystic infarcts of the brain.
ORIGINAL MANNER OF DEATH:	Homicide
REVISED MANNER OF DEATH:	Natural

COMMENT

It became apparent in this complicated case that the findings originally attributed to blunt trauma may be completely, or at least in part attributable to a natural sequence of events beginning with multiple infarcts (strokes) to this child's brain during development within the womb. These areas were incorrectly attributed to chronic blunt force injuries originally. On subsequent review, the geographic location of these areas and particularly the microscopic appearance of them demonstrated the changes of cystic infarcts and not healed trauma. These areas were likely caused by lack of oxygen to parts of the brain from an unknown cause. The infarct areas may have been associated with subdural hemorrhages that correspond to the organizing subdural membrane found in the autopsy. The illustrated autopsy diagram appeared to locate the subdural hemorrhage as overlying the infarcted areas of the brain. My review of the microscopic section of the subdural membrane revealed that it was organizing, showed sinusoidal and new capillary formation, and that the recent, fresh hemorrhage arose from the older subacute membrane. [The membrane and underlying cystic infarcts provide a damaged area of the brain that might be more susceptible to injury and bleeding from even minor trauma.]

The findings of optic nerve sheath and right retinal minor acute hemorrhages is not well explained by the infarct areas, but may be attributable to resuscitative efforts at the time of the child's death. The retina showed microscopic calcifications suggestive of previous problems to the retina similar to that seen in the brain.

My overall impression on this case is that this child had an abnormal brain at birth due to "strokes" of the brain during fetal development. The microscopic appearance of the damaged areas indicates they could serve as a focus for seizure activity. The small acute hemorrhages described in the autopsy may be attributed either to re-bleeding of the subdural membrane over a damaged area of the brain from minor trauma or in the case of the optic nerve and retinal hemorrhages, due to resuscitative efforts. Special stains to identify axonal injury patterns of the brain were clearly negative in the non-damaged areas of the brain tested. Finally, no appreciable brain edema was identified as would be expected in inflicted head trauma leading to death in a child.

For all these reasons, it is my opinion to me that this child likely died from natural causes. The final mechanism of death may have been seizure activity leading to status epilepticus.

Signature:

Thomas Deering MD
 Thomas Deering, M.D.
 Assistant Medical Examiner

Date:

2-17-06

TD/shl

02/17/2006