CIFASD Pilot Study # 3
Neonatal Ultrasound Study to Detect Fetal Alcohol Brain Damage

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Dept. of Neonatology
Dept. of Radiology
Dept. of Psychiatry & Behavioral Sciences
Parent-Child Assistance Program
Washington State
Division of Alclohol & Substance Abuse

Objective

To develop methods and procedures for the earliest possible detection of babies with prenatal damage from alcohol, using technology that can fit easily into existing health care systems

Specific Aim

To demonstrate that our method of averaging intra-cranial ultrasound images of the corpus callosum (CC) can differentiate between alcohol-exposed and unexposed newborns

Recruitment

Through community referral &
2-stage screening:
1. Hospital Screening Questionnaire (HSQ)
2. Pregnancy Drinking Interview & Calendar (PDIC)

Enrollment:

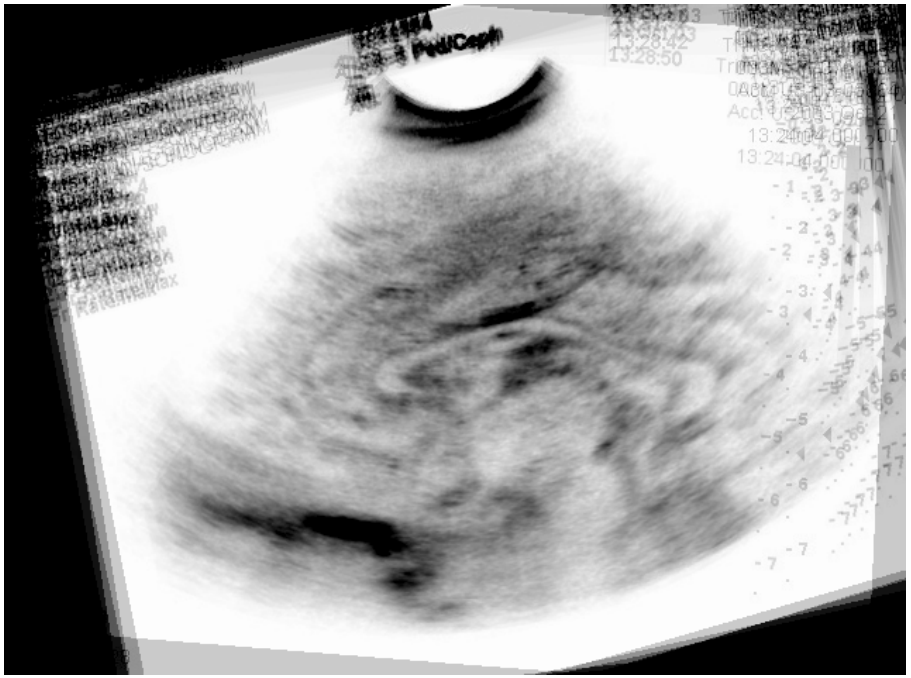
BARC +
Binge-Alcohol Rating Criteria*

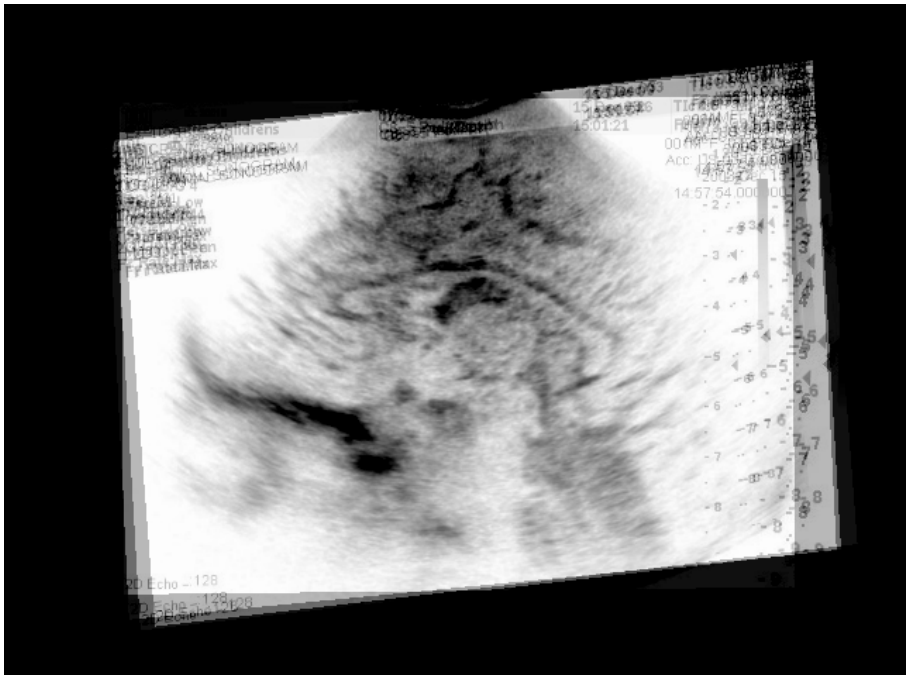
The monthly frequency of
5 or more drinks on an occasion plus
1/4 the frequency of
3 to 4 drinks on an occasion
for either time period (during pregnancy or in the month or so before pregnancy).
If this sum is equal to or greater than 4, the mother is BARC+

*Barr & Streissguth 2001

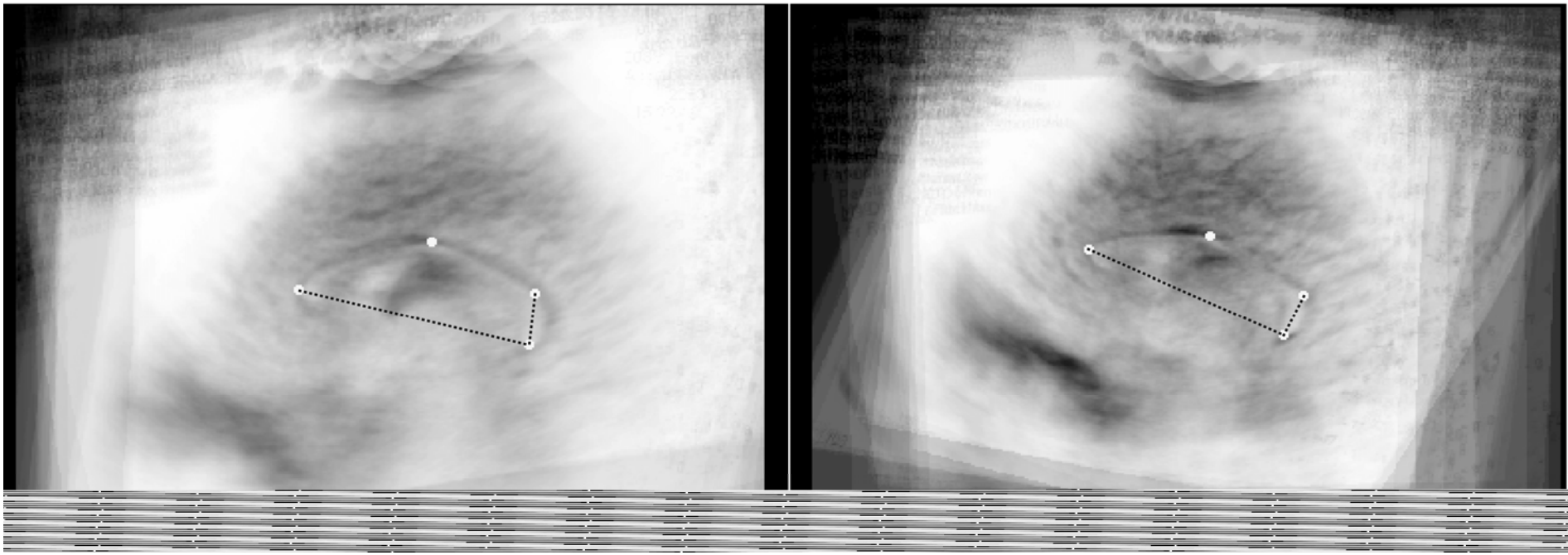
Analysis

20 babies scanned:
30-50 scans per baby
18 babies with usable scans:
Analysis of 1 averaged CC image per baby
7 exposed & 11 unexposed





Above, two exposed neonates, (#4, #10) with a ‘hooklike’ splenium compared to a typical unexposed neonate (#12 below).



Unexposed n=11

Alcohol Exposed n=7

“SpleniumAngle” fromunwarped 4-point averages of averages derived from landmarks