Fetal Alcohol Syndrome in Development: An Embryo Project Perspective

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What is Fetal Alcohol Syndrome (FAS)?

Fetal Alcohol Syndrome:
- Specific set of alcohol-induced defects in children born to mothers who heavily abused alcohol when pregnant
  - Pre- and Post-natal Growth Deficiencies
  - Minor Facial Abnormalities
  - Central Nervous System Defects
- Severity of defects depends on:
  - Developmental stage when exposed
  - Vulnerable cellular populations and mechanisms
  - Severity, duration, and frequency of exposure

FAS and the Embryo Project Encyclopedia (EPE):
EPE examines “agents of change shaping embryo research and its multiple contexts”
- Peer-reviewed, online encyclopedia
- Articles written primarily for lay audience

Methods for examining FAS with the EPE:
- 13 FAS-related articles written
- Articles examine specific developmental defects and socio-historical context
- Developmental timeline of alcohol’s effects created to represent this cluster

Developmental Timeline of Alcohol-Induced Birth Defects and Neurological Impairment

Implantation

Week 0-2

Pre-Embryo

Implantation, 6 days post-fertilization.

Week 3

Embryonic Stage

Photo credit: Digital-Renewal

Embryonic development, 5 weeks.

Week 4

Heart Defects, Embryonic Heart Begins to Beat in 4th Week

Week 5

Midline Facial Abnormalities

Week 6

Heart Defects, Embryonic Heart Begins to Beat in 4th Week

Week 7

Central Nervous System (CNS) Vulnerable

Week 8

CNS: Ocular Defects

Week 9-12

CNS: Basal Ganglia Defects

Week 12-24

CNS: Corpus Callosum Defects

Week 24-36

CNS: Cerebellum Defects

Week 36-Birth

Fetal development.

Photo credit: National Institutes of Health

References:

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