

AUTOPSY - LIVEBORN PERINATAL PROTOCOL

M.C. Fishbein, MD (March 08)

J.D. Goldstein MD and M.C. Fishbein MD (Revised October 2015, May 2017, June 2019, July 2023)

UCLA DEPARTMENT OF PATHOLOGY AND LABORATORY MEDICINE
AUTOPSY SERVICE

***[PLEASE USE ADDITIONAL SHEETS AS NEEDED TO FULLY DESCRIBE
ABNORMAL FINDINGS]***

Date and time of death:

Date and time of autopsy:

Post-mortem interval:

The body is that of a *small for age/macrosomic/normally developed/dysmorphic male/female* infant weighing g percentile for *gestational/post-natal* age). The crown-rump length is cm and the crown-heel, cm. The occipito-frontal circumference is cm. Rigor is *absent/mild/moderate/severe*.

Lividity is *absent/mild/moderate/severe* (state site) Edema is *absent/focal/global (fetal hydrops)*.

The skin is .

(Describe any localized skin lesions, generalized discoloration, cyanosis etc.) (Describe needle punctures, vascular access lines, catheters etc.)

The head is *normo/micro/macro* cephalic *with/without* molding or caput succedaneum.

The anterior fontanelle is x cm, the posterior fontanelle is x cm, and the cranial sutures are *overriding/mobile/normal*. Hair (*describe amount and distribution, color, quality*)

The eyes are *normally spaced/show hypertelorism*; the inner canthal distance is cm and the outer canthal distance cm.

The palpebral fissures are *normal/upslanted/ downslanted*, and the eyelids are *separate*.

The pupils are *equal or unequal and measure and on the left and right sides, respectively*. ***[measure only if unequal]***

The sclerae are *white/icteric /discolored* ; the corneas are *clear/cloudy*; and the irides are *dark/light/*. The ears are *not low set or posteriorly rotated*. The pinna are *soft/folded/firm*.

The nose is *normally formed*.

The mouth is edentulous.

The lip and palate are intact.

The philtrum measures 0. cm.

The thorax appears *symmetric/distorted/narrow/broad*. The chest circumference is cm. The internipple distance is cm.

The abdomen is *flat/scaphoid/protuberant/markedly distended*. The abdominal circumference is cm. There is *no/an* omphalocele or abdominal wall defect.

[Measure if present]

The umbilicus is well healed. *OR*

The segment of umbilical cord, measures x cm, and vessels are identified.

The back appears *normal*. *No exposed neural tube defect or abnormal spinal curvature are present*.

The anus is *patent/imperforate*.

The external genitalia are normally formed for a *male/female*. *The testes are undescended. OR Both/right/left testes/ testis are/is in the scrotum*.

Inguinal hernia is *absent/present*.

Extremities are unremarkable without contractures, syndactyly, polydactyly or clinodactyly. No palmar crease or sandal toe deformity are present. The foot length is cm. .

There are no other findings on external examination or .

Post-mortem radiographs of were obtained which show . *OR No post-mortem radiographs were obtained*.

The usual Y-shaped thoracoabdominal incision and U-shaped biparietal scalp incisions are made.

PERITONEAL CAVITY: The peritoneal surfaces are *smooth and dusky/glistening*.
The peritoneal cavity contains ml of *clear/cloudy/yellow/serosanguineous fluid/or blood or no fluid*.

The liver *is normally configured and is anatomically normally situated*.

The spleen *is normally configured and is anatomically normally situated*.

The stomach is *externally unremarkable/distended*.

The bowel is normally rotated without redundant mesentery such that the small intestine and large intestine are normally situated and the appendix is the in the *right lower quadrant/pelvis*.

The mesenteric lymph nodes are *inconspicuous/unremarkable/diffusely enlarged*.

PLEURAL CAVITIES: The visceral and parietal pleural surfaces are *smooth and dusky/shiny with/without petechiae*.

The right pleural cavity contains ml of *clear/serous/serosanguineous fluid (or blood) or no fluid..*

The left pleural cavity contains ml of *clear/serous/serosanguineous fluid (or blood) or no fluid..*

The lungs occupy *95%* of their respective pleural cavities.

Each lung has a *normal number* of lobes.

PERICARDIAL CAVITY: The pericardial surfaces are *smooth and dusky/shiny*. The cavity is free from adhesions and contains ml of *clear/serous/serosanguineous fluid (or blood) or no fluid..*

CARDIOVASCULAR SYSTEM:

HEART: The heart weighs g.

The viscera-atrial situs is *solitus/inversus/ambiguous*.

There is a D ventricular loop with the cardiac apex and left ventricle to the left and a solitus relationship of the great arteries with the pulmonary artery anterior and to the right of the aorta.

(If other than "solitus", "D", and "solitus", describe more thoroughly the site of the apex, position and relationship of the ventricles, and great arteries).

The epicardium is smooth *without/with a scant amount of* adipose tissue.

There are/*no* epicardial petechiae.

The atria *are/do not appear* distended.

The foramen ovale is *patent/closed*.

The valve of the foramen ovale appears *sufficient/fenestrated/deficient* over the ostium.

There is no atrial septal defect.

The coronary sinus ostium is normal in size and location.

The mural and valvular endocardium is *smooth, shiny and dusky/translucent/white*.

The atrioventricular valves are thin and delicate with normal appearing cordae tendinae.

Both semilunar valves contain three cusps.

The ventricular chambers are not dilated.

The myocardium is *brown and unremarkable*.

There is no ventriculoseptal defect.

The measurements of the heart in cm are as follows:

Tricuspid Valve cm, Pulmonic Valve cm, Mitral Valve cm, Aortic Valve cm, Right Ventricular Myocardial wall cm, Left Ventricular Myocardial wall cm.

The venae cavae enter the right atrium and the ductus venosus is *patent/closed*. All four pulmonary veins enter the left atrium; there is no anomalous pulmonary venous connection.

The coronary ostia are in normal position.

The coronary arteries have a *right/left dominant or aberrant* distribution on the epicardial surface.

The great vessels arise from a *left/right* sided aortic arch in a normal manner.

The caliber of the ascending aorta is normal, and there is no aortic coarctation.

The ductus arteriosus is *patent/closed*.

The branch pulmonary arteries arise normally from the pulmonary trunk and are of normal caliber.

RESPIRATORY SYSTEM:

The trachea and major bronchi are lined by *smooth/tan/purple/* mucosa, their lumens contain fluid. There is no tracheal-esophageal fistula.

LUNGS: The weight of the lungs is: right g; left g. On section *they are firm/fluid filled/foamy/hemorrhagic*.

The trachea and major bronchi are lined by *shiny/hyperemic* mucosa, their lumens contain fluid.

HEMATOPOIETIC AND LYMPHATIC SYSTEM:

THYMUS: The thymus weighs g.

The external surface is *ivory/rose colored* and lobulated *without/with* petechiae.

The cut surfaces *are soft and unremarkable*.

SPLEEN: The spleen weighs g. The capsule is *dusky/shiny/"sugar coated"*..

On section the parenchyma is *soft and deep red* without localized lesions.

The malpighian corpuscles are *inconspicuous/visible and unremarkable*.

LYMPH NODES AND MARROW: The lymph nodes are *inconspicuous/tan and soft*.

Bone marrow is *red*.

GASTROINTESTINAL SYSTEM:

The mucosa of the esophagus is *shiny/ulcerated/grey with longitudinal folds* and its lumen is *empty/contains fluid*.

The mucosa of the stomach is *unremarkable or* and its lumen contains . The length of the small bowel is cm, the large bowel is cm. The mucosa of the small intestine is *unremarkable* and its lumen contains . There is no Meckel diverticulum.

The mucosa of the large intestine is *unremarkable* and its lumen contains *soft stool/green meconium*.

LIVER: The liver weighs g.

The capsule is *dull/shiny and smooth/disrupted*

On section the parenchyma is *homogenous and brown without cysts, other localized lesions or fibrosis.*

The bile, which is *green/orange*, is freely expressed from the gallbladder into the duodenum. or *Patency of the extrahepatic bile ducts is evident by the presence of green meconium.* No calculi are noted.

PANCREAS: The pancreas is tan and coarsely lobulated. On section, *it is ivory/light tan and otherwise unremarkable.*

ENDOCRINE SYSTEM:

ADRENALS: The weight of the adrenals is: right g; left g. They are *normally shaped.* The cut surfaces reveal *bright yellow fetal/thin golden cortex and gray/thin brown central zones.*

GENITO-URINARY SYSTEM:

KIDNEYS: The weight of the kidneys is: right g; left g.

The renal arteries and veins are free from thrombi. The capsules strip easily from the *smooth* renal surfaces that exhibit fetal lobulations.

On section the cortex and medulla are *clearly* demarcated. There are no cysts or localized lesions.

The renal pelves and ureters are lined by *grey, translucent mucosa.*

BLADDER: The mucosa of the bladder is *ivory.* The ureteral orifices and urethra at the trigone are normal. The urachus is *closed/patent.*

GENITALIA: The prostate gland is small, firm and reveals no gross abnormalities. The testes are *descended in the scrotum/in the inguinal canal/intra-abdominal.*

OR

The vaginal mucosa is unremarkable. The uterus, cervix and fallopian tubes have a normal infantile appearance with an elongated cervix and small fundus. The ovaries are thin *with small/without* cysts.

ORGANS OF THE NECK: The thyroid and larynx reveal no gross abnormalities.

The submandibular glands are *tan and unremarkable*. (delete if not examined) #
parathyroids are identified. (delete if not examined)

BRAIN: The soft tissues of the scalp are *unremarkable/edematous/hemorrhagic*.

The sutures *are separated by* *cm*.

The brain is initially examined fresh; it weighs . Please see the Neuropathology
Report, when issued, for further description.

(Delete if not applicable – Confirm description with NeuroPath Fellow)

The dura mater is *unremarkable*. The dural sinuses are *free from thrombi*.

The falx cerebri and the tentorium cerebelli are *intact*. The pia arachnoid is *clear*.

There is *no* subarachnoid *hemorrhage nor exudate*. The convolutions and sulci are
appropriate for gestational age. The middle ears are *not examined*.

A segment of the *thoracoabdominal* spinal cord is removed by the anterior approach and
reveals *no gross abnormalities*. The pituitary gland *is unremarkable*.

MUSCULO-SKELETAL SYSTEM:

BONES: The vertebral bodies are *normally formed*, the joint spaces are *unremarkable*,
and the marrow space is *deep red*. *No other bones are examined*.

ADDITIONAL AREAS OF DISSECTION OR SPECIAL STUDIES:

Placental Examination (S):

PHOTOGRAPHS:

MICROSCOPIC BLOCKS TAKEN:

AUTHOR:Typist

Date

Table 1. WEIGHTS AND MEASUREMENTS WITH REFERENCE RANGES

(Paste in the table from the Gestational Age Anthropometry Website; values applicable up to 1 year of age.)

Reference range data generated from the Gestational Age Anthropometry Website
Copyright © 2013 University of Alabama at Birmingham.

Matthew D. Cain, Joseph R. Siebert, Egiebade Iriabho, Alexander Gruneberg, Jonas S. Almeida, and Ona Marie Faye-Petersen (2015) Development of Novel Software to Generate Anthropometric Norms at Perinatal Autopsy. *Pediatric and Developmental Pathology*: May/June 2015, Vol. 18, No. 3, pp. 203-209.