



Hematology: Size (volume) matters ...

EDTA (ethylenediaminetetraacetic acid, in purple or lavender top tubes) is the most common anticoagulant for whole blood specimens submitted to our Phenotyping core for Complete Blood Count (CBC). Please be aware of volume issues. Blood collecting tubes contain sufficient anticoagulant for the volume specified on the tube. Overfilling or underfilling can be problematic.

When the anticoagulant to blood ratio is low (overfilling), clots are likely to form. Clots clog (or damage) our instrument, and consume cells so that the evaluated fluid contains fewer cells, resulting in artifactually lower cell numbers in CBC results.

When the anticoagulant to blood ratio is high (underfilling), excessive anticoagulant can alter the size and shape of the red cells, especially causing shrinkage and crenation of red cells. Artifactually shrunken red cells especially affect MCV, hematocrit, MCHC. Specifically MCV (mean corpuscular volume) and thus hematocrit (HCT) are lower, while mean corpuscular hemoglobin concentration (MCHC) is higher. RBC and WBC counts also may be affected by high anticoagulant concentrations.

What does this mean for you? If your specimens will not fill a standard tube to the specified capacity, use smaller tubes. Ideally the same anticoagulant, the same tube type, and the same anticoagulant: blood ratio should be used throughout your studies. Our submission volumes often vary from less than 100ul to > 200ul of blood in 400-500ul Microtainer EDTA tubes, such that the anticoagulant to blood ratio usually is too high (hyperconcentrated), but varies considerably, raising concerns about the validity of results as well as about comparing results from different specimens. Our instrument can perform a CBC on <50ul of blood. We have 100ul EDTA tubes, as well as heparinized (green top) tubes. Heparinized tubes allow you to obtain CBC and clinical chemistry from the same blood specimen. **Please ask about the best tubes for your needs.** ☺ nforbes1@jhmi.edu cbrayton@jhmi.edu - more at <http://www.hopkinsmedicine.org/mcp/PHENOCORE/TESTpath.html>

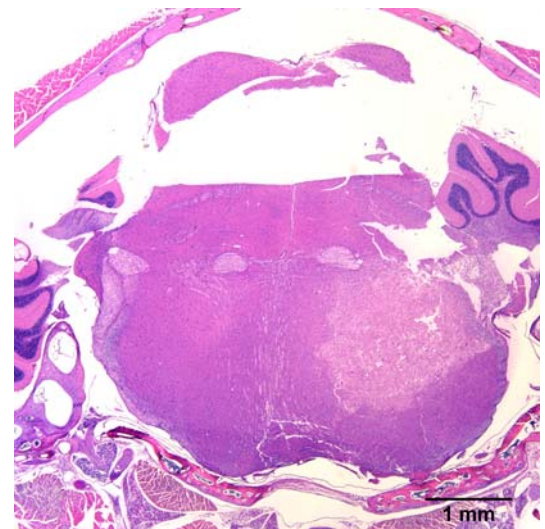


Whats your diagnosis ?

Tissue from a non inbred Swiss sentinel mouse submitted for sudden onset spinning and rolling.

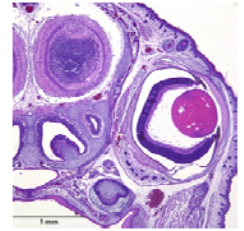
We have a monthly comparative pathology slide conference that features these and similar cases.

Contact cbrayton@jhmi.edu for more information.



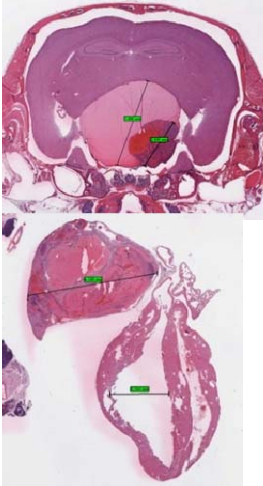


Come to our Short Course !



2011 Mouse Pathobiology and Phenotyping Short Course and Workshop

July 25-29, 2011 at Johns Hopkins University School of Medicine,
Baltimore, MD USA



TARGET AUDIENCE: Scientists, faculty, postdocs, graduate students, veterinarians, pathologists who use or expect to use mice in translational research.

AIMS: To provide information, practical tools and skills essential to the optimal use of mice in translational research.

FORMAT: 5 day short-course on mouse biology, pathology, genetics, practical and multidisciplinary phenotyping for translational research, including lectures, 3 hands on laboratory session, exhibits, tours, poster session pathology slide conference.

DVM/VMD RACE APPROVED 36.5 hrs.



Concurrent with JHUSOM graduate school course ME 680.712

Information and registration at

<http://www.hopkinsmedicine.org/mcp/PHENOCORE/courseCURRENT>

Whats your diagnosis ?

This section of the decalcified head includes the rostral medulla. There is a unilateral discrete region of rarefaction, approximately 1mm diam. Higher magnification reveals neuron necrosis and loss, and scattered gemistocytes and Gitter cells. The finding is similar to 11 cases we reported in T. Southard and C. F. Brayton. Spontaneous Unilateral Brainstem Infarction in Swiss Mice. *Vet Pathol* May 2011 48: 726-729.

Based on the presenting vestibular signs (rolling) in mice, otitis interna should be considered as a cause or contributor, however inner and middle ears of this mouse were normal.

