

MATERNAL PREPARTUM EXAMS

Subjects

Pregnant female monkeys.

Equipment

22-gauge needles and butterflies; 1-cc, 3-cc, 5-cc and 10-cc syringes; sodium heparin; atropine; gauze pads; alcohol wipes; Vetalar; 5-cc heparinized vacutainers; 1-cc EDTA tubes; stopwatch; Doppler stethoscope; parturition data sheets (Appendix, form 1); rectal probe and temperature box.

Time of Exam

Between 8 a.m. and 4 p.m.

Schedule

All exams are conducted on the same day unless an animal exhibits signs of fetal or maternal distress (see Guidelines for Preterm Termination of Pregnancy).

Procedure

All blood draws and procedures are conducted after the animal has been anesthetized with vetalar and atropine.

1. Fill a 3-cc syringe with 0.2 mg atropine (0.5 cc) and, at most, 10 mg/kg of Vetalar. Squeeze the animal up to the cage front and use a 22-gauge needle to inject the syringe contents into a large muscle site. The most common injection site is the large thigh muscle. Record time of injection on parturition sheet.
2. Remove the animal from her cage and take her to the area where the examination table and supplies are located.
3. Weigh the animal and record her weight on the parturition sheet.
4. Insert the rectal temperature probe and while waiting for it to stabilize, check for lactation. Record rectal temperature, time since vetalar injection, and yes/no for lactation.
5. With the animal positioned on her side, check fetal orientation. Roll her to a supine position to confirm orientation. Verify orientation by bimanual external palpation. Record the results on parturition sheet (e.g., head down).
6. With the animal lying supine, prepare the femoral area for blood draw with an alcohol wipe. Draw 4 cc of blood with a 5-cc syringe and 22-gauge needle or with a vacutainer set-up. Occlude the femoral area with external pressure for several minutes after completing the blood draw to prevent any internal bleeding.

7. Divide the 4 cc of blood by unscrewing the needle, and with little pressure, put 3 cc into heparinized (green top) vacutainer and 1 cc into EDTA (purple top) vacutainer. Write the animal's number on both vacutainers for easy identification.
8. Roll the animal onto her side for fetal and placental heart rate measurements. Place lubricating jelly on her abdomen and use the Doppler stethoscope for counting fetal heart rate. Count for 15 sec and multiply by 4 to calculate beats per minute. Record fetal heart rate and placental rate on prepartum sheet. Ideally, two persons should count the beats simultaneously so that you have two counts to record.
9. Immediately after counting the fetal heart rate, count the maternal heart rate with the Doppler. Be suspicious of identical rates. You may have counted the maternal arterial rate rather than the fetal heart rate. Recount fetal heart rate if needed.
10. Maintain the animal on her side for the cervical palpation. With a clean glove and ample lubricating jelly on the fingers, slowly insert one finger into the vaginal canal. Place the other hand on the female's abdomen and apply slight pressure on the fetus so that the presenting part of the fetus moves toward the cervix. Slowly move the finger inside the vagina until the cervix is palpated. Determine the degree of effacement and dilation of the cervical ora, both the internal os and the external os. Record the state of the cervical ora on the prepartum sheet. Also, record whether you could palpate the fetus or not.
11. Check the animal's femoral area for any signs of internal bleeding. Clean off the lubricating jelly. Return her to her cage, laying her on her side to prevent saliva from collecting in her throat.
12. Clean the examination table and replace any supplies needed.
13. Use the large centrifuge to spin the blood samples. Spin the blood for a total of 10 min (two full cycles). Draw off the plasma with a glass pipette and rubber bulb and put it into a pink storage tube with a red snap-on top. Use a ballpoint pen and label with a paper label sticker for the pink tube with the following:
 - animal number
 - date (mo/dy/yr)
 - study
 - prepartum
 - any other relevant information

Place the completely labeled tube in a rack in a freezer for temporary storage.

14. Use a hematocrit centrifuge for hematocrit tubes. Put on gloves and then fill two hematocrit tubes with blood from the EDTA vacutainer. The hematocrit tubes should have some suction effect so filling the tubes should be easy. Close off one end of each hematocrit tube with the white caulk found with/near the hematocrit tubes. Place the hematocrit tubes into the hematocrit centrifuge for the maximum

amount of time (+5 min). Once the centrifuge has stopped, read the hematocrit tubes on the reading calibration machine, or use the manual reading card if necessary. Discard the tubes and the remaining sample in the EDTA tube once you have results that are identical or within 2 points of each other. If the two samples differ by more than 2 points, redo the entire process with another sample of the blood from the EDTA tube. Record the hematocrit (or PCV) values on the prepartum sheet.

15. Make any needed comments about any female that is close to delivering, noting each female's cervical status, etc. Place comments where staff members can see them.
16. Place a note stating that an animal has been anesthetized with a note on the time of anesthesia, so that status checkers know not to code her behavior.