

1. How do you advice the vaccination program for a puppy owner?(10 points)
2. A 12 yr-old dog with bilateral recurrent mucoid or mucopurulent ocular discharge, what is the number one possible cause of the symptom? What eye test will you do first for the dog? (10 points)
3. Anemia is not a disease. To find the underlying diseases caused anemia is very important. Please describe 5 common diseases of dogs that cause nonregenerative anemia.(5 points) And 5 common diseases of dogs that cause regenerative anemia (5 points)
4. A 12 years old, neutered female Maltese presented with PU/PD, abdominal distension. Physical examination revealed non-specific. Hematological findings were as follows: PCV 37.6% (ref. 37.0-55.0), WBC 9600/ $\mu$ L (ref. 6000-17000), PLT 456x 10<sup>3</sup>/uL (ref. 200-500), Alb 3.3 g/dL (ref. 2.3-3.9), TP 7.5 g/dL (ref. 5.2-8.2), ALKP 592 U/L (ref. 23-212), ALT 98 U/L (ref. 10-100), AST 26 U/L (ref. 0-50), Glu 148 mg/dL (ref. 74-149), tT4 <0.5 ug/dL (ref. 1-5), Urine corticoid/creatinine ratio (UCCR, x10<sup>6</sup>) 148.2 (Normal<30, 30-70: non-adrenal disease, >70: Hyperadrenocorticism highly suspected), ACTH stimulation test: Pre: 6.84 ug/dL (ref. 0.5-4); Post: 18.8 ug/dL (ref. 8-20). Sonographic examination of adrenal glands: left: 1x1x0.5 cm, right: 2x3x1.5cm. please answer the following questions.
  - a. What's your final diagnosis? (3 points)
  - b. Why the associated confirming tests are not correlated?(4 points)
  - c. Why the tT4 below the reference range? (3points)
5. A 6-year male French bulldog presented with progressive right head tilt, ataxia in all limbs and unable to blink the right eye over the past week. Clinical examination was unremarkable. Results of the cranial nerve examination are summarized in the table. (2=normal, 1=reduced, 0=absent, PLR=pupil light reflex). Neurological examination also confirmed the right head tilt and ataxia, and the rest of exam is normal.

	Right	Left
Vision	2	2
Menace response	0	2
Pupil size	1	2
PLR – stimulate right	2	2
PLR –stimulate left	2	2
Vestibular eve movement	Head turning to right:0 / Head turning to left: 2	
Strabismus	Positional strabismus	0
Nystagmus	Horizontal, quick phase to left	
Facial sensation	2	2
Masticatory muscle	2	2
Palpebral reflex	0	2
Gag reflex	2	2
Tongue	2	2
Observation	3rd eye lid protrusion, ptosis	2

Please answer the following questions. (10 points)

- A. What nerve(s) is responsible for the deficits in this dog?
  - B. What is the lesion localization? Write down the anatomical structure(s) able to explain all the deficits.
  - C. What are your top two differential diagnoses?
  - D. What is your plan for the further investigations? What are the expected findings based on your two differential diagnoses?
6. Please describe the management of chemotherapy complications, such as how to prevent it from happening, when complications occur, what can you do to help the recovery of the patients. (10 points)
  7. Please describe the cause of hyperparathyroidism and its management. (10 points)
  8. Please describe the mechanisms of "primary (direct) bone healing" and "secondary (indirect) bone healing". (5 points)
  9. Draw figures of long bone fractures with fixation methods, one represents direct healing and the other one for indirect healing. (5 points)
  10. Explain and draw figures of options small intestinal end-to-end anastomosis. (5 points)
  11. Describe 5 techniques and medications of perioperative pain control. (10 points)
  12. Describe procedures of aseptic preparation and draping of radial/ulna fracture surgery in dogs. (5 points)