

南京农业大学
2006 年攻读博士学位研究生入学考试试题

试题编号: 449 试题名称: 兽医临床病理学

注意: 答题一律答在答题纸上, 答在草稿纸或试卷上一律无效

一. 名词解释 (每小题 2.5 分, 共 25 分)

1. Blood smear analysis
2. Mean corpuscular haemoglobin concentration (MCHC)
3. Haemolytic anaemia
4. Blood urea nitrogen
5. Alanine aminotransferase (ALT)
6. Hyperglycaemia
7. Hyperbilirubinaemia
8. Proteinuria
9. Amylase
10. lymphopenia

二. 简答题 (每小题 5 分, 共 30 分)

1. 试分析犬血清白蛋白含量下降的原因。
2. 犊牛疑似硒缺乏症时, 可做那些临床病理学检查?
3. 检测犬肝功能需要血清样品, 请叙述其采集与制备过程。
4. 为诊断蛋鸡骨质疏松症, 可做那些生化检查?
5. 简述分泌性代谢性酸中毒的原因、机理、血清电解质变化 and 治疗方法。
6. 试说明为什么对被检动物血象进行解释时, 不仅要参考相对分类计数值, 还要参考绝对分类计数值。

三. 论述题 (每小题 15 分, 共 45 分)

1. 试述犬肝功能检查的分类与常用指标及血清胆碱酯酶 (Serum cholinesterase; ChE) 检查的临床意义。
2. 根据你的经历和体会, 结合实际谈谈兽医临床病理学检查在疾病诊断上的重要性。
3. 下面是小动物的临床病例, 请你根据临床检查与实验室结果作出诊断, 并说明诊断理由, 解释为什么会出现这些变化 (英语考生做用英语写的病例; 非英语考生做用中文写的病例)?

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Case 1

Patient: Cat, domestic shorthair, female, 1 year old.

Presenting Signs and Complaints: Inappetent for 5 days; severely ill on day of admission.

Physical Examination: Pale, yellow mucous membranes; increased plus and respiratory rates.

Problem List: 1. Anemia. 2. Icterus.

Hematology		Serum Chemistry	
↓RBC×10 ⁶ /μL	2.7 (2.7 ×10 ¹² /L)	↑AST(SGOT)(IU/L)	352(352 U/L)
↓Hemoglobin(g/dL)	7.7 (4.77 mmol/L)	↑ALT(SGPT)(IU/L)	123(123 U/L)
↓PCV(%)	12.9(0.13 volume fraction)	↑ALP(IU/L)	93(93 U/L)
↑MCHC(gm/Dl)	59.4(36.8 mmol/L)	↑Total bilirubin(mg/dL)	4.9(83.8 μmol/L)
↑Aggregate reticulocytes(%)	6.0 (0.06 number fraction)	↑Conjugated bilirubin(mg/dL)	1.0(17.1 μmol/L)
↑Corrected aggregate reticulocytes	2.1%(0.021 number fraction)	↑Unconjugated bilirubin(mg/dL)	3.9(66.7 μmol/L)
↑Aggregate reticulocytes/μL	162,000(162 ×10 ⁹ /L)		
↑NRBC/100WBC	21		
↑Polychromasia	2+		
↑Anisocytosis	2+		
↑Poikilocytosis	Heinz bodies 2+		

Urinalysis (Cystocentesis)	
Protein	3+
Blood	3+
Bilirubin	3+
WBC/hpf	30-40
RBC/hpf	150

Case Histories

Hemogram

The erythrocytes are normocytic, and there is an increase in the MCHC. Hyperchromia (high MCHC) is not physiologically possible and is considered an artifact. It occurs in samples that are hemolyzed, lipemic, or has large numbers of Heinz bodies. In this case the presence of a large number of Heinz bodies, which are not destroyed by the lysing agent, increased the optical density, resulting in a false high value for hemoglobin and MCHC. Heinz bodies can be observed with chemical poisons such as methylene blue and benzocaine and plant poisons such as onions and kale. A retrospective history revealed that the owner had fed the cat fried onions

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as the cat begged for food while liver and onions were being cooked.

The reticulocytosis (polychromasis) with a normal number of punctate suggests that the anemia is recent and regenerative. In this case the anemia is normocytic even though it is regenerative as indicated by an almost four-fold increase in aggregate reticulocytes. This is because the response was detected early before sufficient numbers of macrocytes had been released from the bone marrow. The important point to remember is that reticulocyte numeration is a more sensitive indicator of whether an anemia is regenerative or nonregenerative. The MCV is a less sensitive indicator in separating regenerative and nonregenerative anemias and should only be used as an initial screen since it is automatically included in hemograms. Nucleated erythrocytes (21/100 WBC) may be associated with RBC regeneration but also appear in the peripheral circulation after sudden hypoxia.

Biochemical Profile

Hyperbilirubinemia is secondary to the increased hemoglobin turnover associated with the Heinz body-induced hemolytic anemia. The increased ALT and AST with a slightly greater increase in AST may occur as a result of an acute insult to the liver in the cat. Sudden anoxia, such as can occur with a rapid destruction of erythrocytes, may alter the integrity of the hepatocyte membrane in the centrolobular area. As the lesion resolves the AST will return toward normal faster than will the ALT.

Urinalysis

The pyuria, hematuria, and proteinuria support the presence of inflammatory renal or urinary tract disease.

中文病例（供非英语考生）

某地李某家养的德国牧羊犬，1 岁，雄性，体重 23.5 kg。发病近 1 个月，逐渐腹胀，食欲减退，精神沉郁，消瘦。到动物医院求诊时，腹壁一侧冲击式触诊，对侧腹壁看到水状波动，腹腔穿刺有液体流出。股内侧体温 39.5 °C。此犬按时免疫，平时喂米饭、窝头和菜汤。临床病理学检查可知，白细胞总数显著升高，淋巴细胞降低，血清天门冬氨酸氨基转移酶、丙氨酸氨基转移酶和碱性磷酸酶的活性升高，总蛋白和白蛋白均降低，尤其是白蛋白下降更加明显。腹水检查发现，犬的腹水液透明、无色、无味，呈碱性，比重降低，李凡他试验阴性。离心后镜检可见少量的红细胞和白细胞，无脓细胞。