Verification - Theoretical- II: Medical Statistics – 1st Semester, 2013

INSTRUCTIONS

- This exam contains 4 multiple choice questions.
- Each question is followed by five possible answers. You should choose the best answer from the stated alternatives by circle the answer(s). [M] identified a multiple complement question (has more than 1 correct answer); [S] identified a simple complement question (the question has one correct answer).
- **Cell phones, IPhones, tablets or laptops are not permitted for use in any way.**
- Any discussion or otherwise inappropriate communication between students, as well as the appearance of any unnecessary material or cell-phone usage, will be considered fraud (cheating). Violations may result in an exclusion from the test.

Total Time (including reading): 15 minutes

The questions of this verification are based on the information published in the following reference: Tvarijonaviciute A, Ceron JJ, Holden SL, Cuthbertson DJ, Biourge V, Morris PJ, German AJ. Obesity-related metabolic dysfunction in dogs: a comparison with human metabolic syndrome. BMC Veterinary Research 2012;8:147.

Read the abstract of the article to answer for the first question:

1. [M] The following statements presented in the abstract are true:
    A. The sample of 35 dogs with obesity represents investigated population
    B. The sample of 35 dogs with obesity represents the sample
    C. Systolic blood pressure, cholesterol, triglyceride, and fasting insulin significantly decrease after weight loss (p < 0,02)
    D. The level of plasma adiponectine increased after weight loss but the increased was not statistically significant
    E. The level of plasma adiponectine increased after weight loss and the increased was statistically significant

Read the results section to answer to the following questions:

2. [M] The following statements presented in the results section are correct:
    A. Both cholesterol and triglicerides decreased under the thresholds after weight loss
    B. The median of weight decreased after weight loss from 32.9 (5.4-77.0) kg to 25.6 kg (4.4-51.4) but the deacresed was not statistically significant
    C. The median of weight decreased after weight loss from 32.9 (5.4-77.0) kg to 25.6 kg (4.4-51.4) and the deacresed was statistically significant
    D. Plasma adiponectine had lower valaues for dogs with metabolic syndrom compared to dogs without metabolic syndrom (p = 0.0031)
    E. Plasma fasting insulin proved having lower values for dogs with metabolic syndrome compared to dogs without metabolic syndrom (p = 0.0030)

3. [S] The authors presented the results as medians and interquartile range (Q1-Q3) because:
    A. Experimental data did not followed a normal distribution
    B. Experimental data followed a normal distribution

Measurements before and after weight loss reported in the article are summarized in the following table:			
Criterion	Before Median (Q1-Q3)	After Median (Q1-Q3)	p
BCS	8 (7-9)	5 (4-6)	< 0.001
ABP (mmHg)	155 (108-220)	130 (105-180)	0.008
Cholesterol (nmol/L)	5.6 (2.5-9.3)	5.0 (1.9-7.7)	0.003
Glycemia (mmol/L)	5.4 (3.5-8.7)	5.2 (3.0-7.4)	0.166
Adiponectine (µg/mL)	7.8 (0.8-19.5)	5.0 (1.1-34.9)	0.001
high-sensitivity C-reactive protein (nmol/L)	9.1 (0.1-225.5)	9.1 (0.0-193.6)	0.822
Q1 = 25% percentile; Q3 = 75% percentile; BSC = body condition score; SBP = arterial blood pressure; PCR = proteine C reactiv			

4. [M] The following statements regarding information presented in previous table are true:
    A. The cholesterol level is significantly lower after the weight loss comparative with baseline determination (p = 0.008)
    B. Glycemia is sigmificantly lower after the weight losss
    C. High-sensitivity C-reactive protein did not changed after weight loss(p = 0.822)
    D. Adiponectine level incerased significantly after weight loss (p = 0.001)
    E. Adiponectine level decrased significantly after weight loss (p = 0.001)