



UNIVERSITY OF RUHUNA - FACULTY OF ALLIED HEALTH SCIENCES  
DEPARTMENT OF MEDICAL LABORATORY SCIENCE

Year End Exam Year 2 – 8<sup>th</sup> Batch

EPIDEMIOLOGY MLS 2102 (Theory I)

Date: 09<sup>th</sup> July 2018

Time: 3.00 pm - 4.00 pm



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INDEX NO:.....

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Structured Essay Questions - Answer all questions

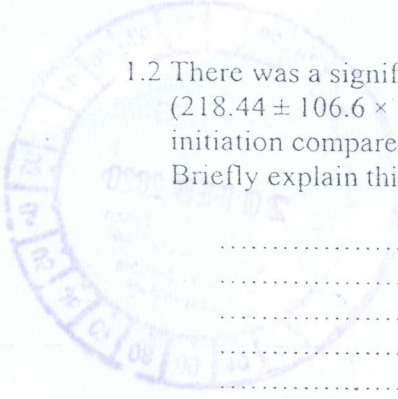
- 1. Read the following abstract and answer the questions

**Prevalence of thrombocytopenia before and after initiation of HAART among HIV infected patients at black lion specialized hospital, Addis Ababa, Ethiopia: a cross sectional study.**

Background: Hematological abnormalities are common in HIV positive patients. Of these, thrombocytopenia is a known complication which has been associated with a variety of bleeding disorders. However, its magnitude and related factors have not been well-characterized in the era of highly active antiretroviral therapy (HAART) in Ethiopia. Therefore, this study aimed to assess the prevalence of thrombocytopenia before and after initiation of HAART among HIV positive patients attending Black Lion Specialized Hospital, Addis Ababa, Ethiopia. Methods: A cross sectional study was conducted from February to April 2017 in Black Lion Specialized Hospital, Addis Ababa, Ethiopia. A total of 176 patients on HAART were selected using simple random sampling techniques. Socio-demographic and clinical characteristics of the study patients were collected using structured questionnaire. Measurements of platelet counts and CD4 + T cell counts were made using Sysmex XT 2000i hematology analyzer and BD FACS Count CD4 analyzer, respectively. Statistical analysis of the data (Paired T- test and binary logistic regression) was done using SPSS version 20. *P*-value < 0.05 was considered as statistically significant. Results: A total of 176 patients (Age > 18 years old) were enrolled in this study and had a mean age of 40.08 ± 9.38 years. There was significant increase in the mean values of platelet counts (218.44 ± 106.6 × 10<sup>3</sup>/μl vs 273.65 ± 83.8 × 10<sup>3</sup>/μl, *p* < 0.001) after six months of HAART initiation compared to the baseline. Prevalence of thrombocytopenia before and after HAART initiation was 25 and 5.7% respectively. HIV patients whose CD4 counts < 200 Cells/μl were more likely to have thrombocytopenia than HIV patients whose CD4 count ≥ 350 Cells/μl. However, it was not statistically associated with prevalence of thrombocytopenia. Conclusions: This study has shown that the prevalence of thrombocytopenia after HAART initiation was decreased significantly. Based on our results, a number of study participants still had thrombocytopenia after initiation of HAART. Therefore, continuous screening for thrombocytopenia among HIV infected patients should be performed to decrease the risk of morbidity and mortality

- 1.1 What is the purpose of this epidemiological investigation? (40 marks)

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1.2 There was a significant increase in the mean values of platelet counts ( $218.44 \pm 106.6 \times 10^3/\mu\text{l}$  vs  $273.65 \pm 83.8 \times 10^3/\mu\text{l}$ ,  $p < 0.001$ ) after six months of HAART initiation compared to the baseline.

Briefly explain this statement. (30 marks)

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1.3 Is CD4<sup>+</sup>T cell count a risk factor for thrombocytopenia in this patient group? If so who are at risk? (30 Marks)

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2. Explain briefly the following terms

2.1 Relative risk (25 marks)

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2.2 Case-control studies (25 marks)



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2.3 Epidemiology (25 marks)

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2.4 Disease surveillance (25 marks)

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