PERBEDAAN KADAR *SIGNAL TRANSDUCER AND ACTIVATOR OF TRANSCRIPTION-3* (STAT-3) SERUM DAN NILAI *MEAN PLATELET VOLUME* PADA PENDERITA KARSINOMA *MAMMAE* DENGAN BERBAGAI *GRADING* HISTOLOGI TUMOR

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ABSTRAK

Latar belakang: Kadar *signal transducer and activator of transcription 3* (STAT-3) serum berkaitan dengan pembentukan, migrasi, invasi berbagai kanker. Hasil penelitian tentang nilai *mean platelet volume (*MPV) yang menggambarkan progresivitas pertumbuhan tumor berdasarkan *grading* histologi tumor juga masih belum jelas.

Tujuan: Membuktikan adanya perbedaan STAT-3 serum dan nilai MPV pada penderita karsinoma *mammae* berdasarkan *grading* histologi tumor.

Metode: Penelitian belah lintang pada 79 penderita karsinoma *mammae* terbagi berdasarkan *grading* histologi tumor *grade* 1 (K1), *grade 2* (K2), dan *grade* 3 (K3) berdasarkan *scoring* Elston dan Ellis. Pemeriksaan parameter nilai MPV dengan *hematology analyzer* dan kadar STAT-3 serum dengan metode ELISA. Analisis data dengan uji ANOVA dilanjutkan uji *post hoc Bonferroni* dan uji *Kruskal Wallis* dilanjutkan uji *post hoc Mann Whitney* bila $p<0,05$.

Hasil: Nilai rerata ± SB kadar STAT-3 serum K1, K2, dan K3 adalah 0,69 ± 0,88 ng/mL, 1,3 ± 1,37 ng/mL, dan 3,72 ± 3,72 ng/mL. Nilai median (min-maks) MPV K1, K2, dan K3 adalah 9,05 (8,1 – 10,2) fL, 9,6 (8,5 – 10,4) fL, dan 10,5 (9,3 – 11,3) fL. Hasil uji beda kadar STAT-3 serum antar kelompok p=<0,001, K1 dengan K2 p=0,072, K1 dengan K3 p=<0,001 serta K2 dengan K3 p=0,003. Hasil uji beda nilai MPV antar kelompok p=<0,001, K1 dengan K2 p=0,015, K1 dengan K3 p=<0,001 serta K2 dengan K3 p=<0,001.

Simpulan: Terdapat perbedaan bermakna kadar STAT-3 serum dan nilai MPV pada penderita karsinoma *mammae* berdasarkan kelompok *grading* 1,2 dan 3.

Kata kunci: karsinoma *mammae*, STAT-3 serum, *mean platelet volume*

COMPARISON OF SERUM SIGNAL TRANSDUCER AND ACTIVATOR OF TRANSCRIPTION-3 (STAT-3) LEVELS AND MEAN PLATELET VOLUME VALUES IN BREAST CANCER PATIENTS WITH VARIOUS HISTOLOGICAL TUMOR GRADINGS

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ABSTRACT

Background: *Serum signal transducer and activator of transcription 3 (STAT-3) levels is associated with the formation, migration, invasion of various cancers. The results of research on the mean platelet volume (MPV) value that describes the progression of tumor growth based on tumor histology grading are also still unclear.*

Objective: *To a prove the difference of serum STAT-3 and MPV values in patients with breast cancer based on tumor histology grading.*

Method: *The crosssectional study in 79 patients with breast cancer was divided based on grade 1 (K1), grade 2 (K2), and grade 3 (K3) tumor histology grading based on Elston and Ellis scoring. MPV values were measured by hematology analyzer and serum STAT-3 levels by ELISA method. Data analysis with ANOVA test followed by post hoc Bonferroni test and Kruskal Wallis test followed by post hoc Mann Whitney tes, if $p<0.05$.*

Results: *The mean values of serum STAT-3 levels K1, K2, and K3 were 0.69 ± 0.88 ng/mL, 1.3 ± 1.37 ng/mL, and 3.72 ± 3.72 ng/mL. The median (min-max) values of MPVs K1, K2, and K3 were 9.05 (8.1 – 10.2) fL, 9.6 (8.5 – 10.4) fL, and 10.5 (9.3 – 11.3) fL. The test results were different in serum STAT-3 levels between groups $p = <0.001$, K1 with K2 $p = 0.072$, K1 with K3 $p = <0.001$ and K2 with K3 $p = 0.003$. The test results were different in MPV values between groups $p = <0.001$, K1 with K2 $p = 0.015$, K1 with K3 $p = <0.001$ and K2 with K3 $p = <0.001$.*

Conclusion: *There is a significant difference in serum STAT-3 levels and MPV values in patients with breast cancer based on grading groups 1, 2 and 3.*

Key Words*: breast cancer, serum STAT-3 levels, mean platelet volume*