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2289 - Evaluation of expression of HLA-DR in monocytes by flow cytometry as an indicator of inflammatory and infectious disease

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Introduction and aim:This study aimed investigate the potential use of HLA-DR molecule expressed in monocytes quantify by flow cytometry method as a biomarker to systemic inflammatory response syndrome (SIRS) or bacterial sepsis (BS) diagnostic in outpatients and intensive care unit (ICU) patients. Methods: Peripherical blood samples collected between May and July of 2018 were analyzed using a flow cytometer. For determination of prediction of outcome SIRS or BS according to HLA-DR MFI, a receiver operating characteristic (ROC) curve was generated and compared to ROC curve of immature granulocyte % (IG%), hemogram parameter commonly changed in inflammatory disease. The greater cut-off of HLA-DR MFI to detect outcome was compared with others laboratory variables commonly changed in inflammatory disease. Results: Seventy eight patients were included. ROC analysis demonstrated that area under curve (AUC) of HLA-DR was greater than IG% to detect outcome SIRS or BS, 0.718 (95% CI 0.601-0.835) P=0.002 and 0.686 (95% CI 0.564-0.808) P=0.008, respectively. Cut-off value of HLA-DR MFI 1446 had the best sensitivity and specificity, 64.0% and 73.6%, respectively. This HLA-DR MFI cut-off value was associated with band cells count > 10% (P < 0.001); white blood cells (WBC) > 12 x 109/L (P < 0.001); IG% 0.65% (P < 0.001) and flags detection (P=0.002). Conclusion: Quantify of HLA-DR expression in monocytes by flow cytometry method presents potential to be used as screening test to detect SIRS or BS.