progress of nanotechnology-based medicines against malaria with the dubious argument that they are too expensive to be used in developing areas. Unfortunately, it is true that the application of nanoscience to infectious disease has been traditionally neglected, with most research resources overwhelmingly biased towards other pathologies more prominent in developed regions. Thus, extra ingenuity is demanded from us: malaria-oriented nanomedicines not only need to work spotless; they have to do so in a cost-efficient way because they will be deployed in low-income countries. In this regard, the use of molecular elements combining several antimalarial activities, whether drug, targeting, carrier, or booster of immune reactions, will contribute to reduce the cost of their development. The implementation of a new delivery method is usually cheaper than the process leading to the discovery of a new drug, and it has the additional advantage that, if well designed, these biotechnological strategies can be adapted to several drugs. Rather than focusing all efforts on identifying new drugs whose efficacy is rapidly diminished by the parasite's evolution of resistance, an important and often disregarded battlefront is the implementation of targeted delivery methods capable of increasing the doses reaching the pathogen up to local levels sufficiently high to minimize this resistance emergence. Regrettably, the search for this long sought-after *magic bullet* against malaria has not taken off in earnest yet. However, recent data outline the feasibility of some such potential novel approaches, among which we can count new types of combination therapies where one of the activities does not act on individual *Plasmodium* gene products.

P.5.2-020
The effects of two different antihipertansive drugs as beta blockers-adrenergic receptor antagonists on hca1 and hca2 isozymes in obstructive sleep apnea patients and control group

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The catalytic function of the enzyme carbonic anhydrase (CA) plays a fundamental role in carbon dioxide (CO_2), proton (H^+), and bicarbonate (HCO_3^-) homeostasis. A specific role of CA in respiration and ventilatory control is suggested by the presence of various CA isoforms in various tissues [1]. Carbonic anhydrase (CA) activity increased with apnea-hypopnea index and related nocturnal hypoxemia measures in patients with obstructive sleep apnea (OSA) [2]. In this study, patients referred to the Department of Pulmonary Diseases at the Balıkesir University Hospital with suspected OSA were randomly recruited. We investigated inhibition of carbonic anhydrase I and II from sleep apnea patients and healthy control gruop with two different antihypertansive drugs as a class of beta blockers (nebivolol and carvedilol). hCA-I and hCA-II were purified from human erythrocyte cells by affinity chromatography [3]. CA I and CA II enzyme activity was observed to be increased in obstructive sleep apnee patients. Antihypertansive ingredients have been shown to have a stronger inhibition in OSA patients than non OSA group for hCA I and hCA2 activity.

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P.5.2-021
Testing the prooxidant-antioxidant balance in patients with prediabetes and Type 2 diabetes mellitus

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Diabetes mellitus is associated with an imbalance between prooxidant mechanisms and the antioxidant defenses, contributing to oxidative-stress. Oxidative stress is associated with an insulin-resistance, impaired pancreatic β-cell function, increased susceptibility to endothelial dysfunction and atherosclerosis. In this work, the serum pro-oxidant/antioxidant balance (PAB) in patients with prediabetes and type 2 diabetes was tested. The study included 54 patients with prediabetes and 195 patients with type two diabetes mellitus (T2D) which were divided into two groups (95 newly diagnosed T2D patients and 100 T2D patients recieving therapy). All of the patients were recruited at Clinical Center University of Sarajevo. The main task of this study was to evaluate differences in PAB value between our patient groups. The values of uric acid, inflammatory markers (CRP, IL-6, fibrinogen), anthropometry parameters (BMI, waist circumference, hips circumference, WHR) and parameters of lipid profile were also tested. All subjects included in the study were free of evidence of chronic problem that can cause hyperglycemia (infections, surgery, thyroid disease, polycystic ovarian syndrome), active liver and kidney damage and were not using any hormonal or hypoglycemic therapy. Results of this study demonstrated statistically higher values of PAB in T2D patients receiving therapy when compared to newly diagnosed T2D patients and patients with prediabetes. Statistically higher values were also observed for CRP in T2D newly diagnosed patients and patients recieving therapy compared to prediabetics patients. Patients with T2D recieving therapy had highest VLDLc values and newly diagnosed T2D patients highest atherogenic index among three patients groups. Our study demonstrated imbalance between serum pro-oxidant and antioxidant activity. Furthermore, our findings indicate that this assay could be used along with other risk factors to estimate the oxidative stress in high-risk patients.

P.5.2-022
Effect of static magnetic field with antiproliferative compounds on MDA MB-231 cell line

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The recent studies show that the static magnetic field (SMF) can be used as an alternative treatment in cancer therapy. Especially

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