was induced 8 h after incubation with 20% CSE (P = 0.029) and 24 h after incubation with 10% and 20% CSE (P = 0.019). HSP27 was induced with 20% CSE only after 48 h (P = 0.012). Unexpectedly, we could not detect significant changes in HSP70 expression (P > 0.05).

The unchanged level of HSP70 expression might reflect lack of induction, or increased release of HSP70 from the damaged, necrotic cells.

We conclude that CSE-induced stress produces only limited activation of HSPs response indicating disturbed cellular defense mechanisms. It is possible that chronic exposure to CSE leads to the depletion of HSP-related defense mechanisms and contributes to the abnormal inflammatory response observed in lungs of smokers and COPD patients.

Keywords: chronic obstructive pulmonary disease, cigarette smoke extract, heat shock proteins.

SUN-120
Circulating biomarkers assessment for early diagnosis of vascular calcification in chronic kidney disease

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Background: Chronic kidney disease (CKD) describes the gradual loss of kidney function that typically evolves over many years due to its clinically silent behavior. CKD is associated with an increased inflammatory condition, which involves complex interactions among immune cells and soluble proteins. Accelerated vascular calcification (VC) is an important and devastating complication of CKD and contributes to the high mortality in these patients.

The aim of the present study is to assess a novel biomarker panel particularly useful for identification of VC early phases in CKD patients, having important consequences on the therapeutic interventional strategies, prognosis, and life-expectancy of patients with CKD.

Material and Method: Serum samples of 29 CKD patients (in stages II-IV, not undergoing dialysis) and 10 normal controls were analysed to simultaneously measure the level of 8 biomarkers (IL-6, IL-1β, TNFα, OPG-osteoprotegerin, OC-osteocalcin, OPN-osteopontin, PTH, FGF-23 – Milliplex MAP Human Bone Magnetic Bead Panel) using xMAP technology. Multiplexed data acquisition was performed on Luminex 200 platform using xPONENT 3.1 version.

Results: Mineral metabolism candidate biomarkers and molecules that actively regulate VC process (OPG, OC, OPN, PTH and FGF-23 respectively) showed an increased circulating level compared with control – between 1.66 and 12.37 fold higher, p < 0.05. The pro-inflammatory cytokines level (TNFα, IL-6) was also increased in CKD patients compared with control (1.96 and 7.03 fold higher, p < 0.05), with the mean values of 2.73 pg/mL and 6.96 pg/mL respectively in the CKD group, while for IL-1β no trend was visible so far. It has also been observed a positive correlation between the circulating biomarkers level and the stages inside the CKD group.

Conclusion: Detecting VC through its severe clinical manifestations may turn to be too late for any therapy to halt its progression or to reverse it. Thus, it would be particularly useful to develop a specific biomarker panel for identification of early phases of VC and for scoring its severity in CKD patients, which would allow developing further strategies aiming to control and even reversing some of the processes.

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Keywords: chronic kidney disease, circulating biomarkers.

SUN-121
Circulating endothelial microparticles in patients with chronic hepatitis C infection

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Aim: Endothelial microparticles (EMPs) can be involved in inflammatory process, blood coagulation, and regulation of vascular function. Inflammation and endothelial dysfunction have been reported in patients with chronic hepatitis C (CHC) infection, but their influence on circulating EMPs levels and diabetes prevalence remains unknown.

Methods: Seventy-four CHC patients, 30 with type 2 diabetes, and 40 healthy controls were enrolled in the study. Circulating levels of EMPs, ischemia-modified albumin (IMA), pro-inflammatory cytokines (interleukin-6, and tumor necrosis factor α), and high-sensitivity C-reactive protein (hsCRP) were assessed.

Results: Compared with the controls, the CHC patients with diabetes showed a significant increase in plasma concentrations of circulating of EMPs, IMA, tumor necrosis factor α and hsCRP ($P < 0.001$). The values of EMPs and IMA were more elevated in patients with diabetes than without diabetes (both $P < 0.01$). The positive relationships were found between tumor necrosis factor α and EMPs levels ($P < 0.01$) and the presence of diabetes ($P < 0.001$). Significant positive correlations between IMA and hsCRP levels and between EMPs and hsCRP levels were found in all patients with CHC infection.

Conclusion: We documented that significant elevation in plasma EMPs levels is associated with diabetes prevalence and increased inflammatory response reflected in tumor necrosis factor α levels in patients with chronic hepatitis C infection.

Keywords: diabetes mellitus, endothelial microparticles, HCV infection.

SUN-122
Clinical implication of afamin and its SNP rs4694619 G>C as a novel diagnostic marker for breast cancer

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Comparative proteomics identified the vitamin E binding plasma protein, afamin, as a potential novel tumor marker. We aimed to identify the diagnostic utility of afamin in detection of breast cancer. Moreover, genome-wide association studies of breast cancer revealed that single nucleotide polymorphisms (SNPs) in some genes with novel association to disease susceptibility. Thus we attempt to study SNP in afamin gene (SNPrs4694619). Plasma concentrations of afamin using ELISA assay was measured in 240 breast cancer patients, 80 benign cases, and 60 controls and compared the results with conventional breast tumor markers; CA15.3, CEA, and angiogenesis; VEGF and NO. Genotyping of afamin rs4694619 G> C polymorphism was identified using poly-