percentage, a semi-quantitative evaluation of Glasgow Microenvironment Score was performed. Also, Glasgow Prognostic Score, that is widely known as a systemic inflammatory-based marker, was determined for each patient.

**Results:** Diabetic patients presented a significant higher glycaemia than the control patients (190.1 ± 13.6 mg/dL vs 98.2 ± 3.6 mg/dL, p < 0.001, respectively). Decreased survival rates were observed in diabetic patients (511.5 vs 916.0, p > ns). Tumours exhibited increased fibrosis relatively to the adjacent mucosa in both groups and diabetic patients (N: 9.362 ± 1.337; T: 12.29 ± 1.407) presented higher fibrosis levels than the non-diabetic patients (N: 7.165 ± 1.017; T: 10.97 ± 1.076).

**Conclusion:** Expected results: Identifying the distinct features that characterize GC of DM2 patients compared to nondiabetic patients (namely fibrosis, angiogenesis, inflammation, and oxidative stress biomarkers) will enable to study this subset of GC patients and unravel key mechanisms behind the relationship between DM2 and GC.

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**References**


**Circulating EVs for AML minimal residual disease biomarkers detection**

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**Aim:** We propose to evaluate the feasibility of a peripheral blood EV-based liquid biopsy method for AML disease monitoring in real time with molecular precision.

**Introduction:** Acute myeloid leukemia (AML) is a hematopoitic stem cell disorder with high mortality rate mainly due to the high frequency of post-treatment relapse. Minimal residual disease (MRD) determination in AML patients receiving treatment is useful to assess chemotherapy response and predict relapse. One approach to upgrade the current invasive MRD monitoring (traditionally based on bone marrow aspirates/biopsies) is to use methods that identify cancer-associated biomarkers in patients’ blood. Recently, extracellular vesicles (EVs) have been increasingly recognized as a potential source of biomarkers, since the levels of EVs are markedly increased in cancer patients’ blood and those EVs potentially carry molecular signatures associated with specific cancer phenotypes.

**Methods:** The profile of EVs isolated from AML patients’ blood plasma collected from paired AML diagnostic and complete remission samples is being compared and correlated with clinical data. A size-exclusion chromatography (SEC) method was optimized to isolate the plasmatic EVs. The EVs profile is then characterized according to their size, plasmatic concentration, morphology and protein content.

**Results:** EVs with decreasing size were successfully isolated between SEC fractions 3 to 6, with a size ranging from 300 nm to 30 nm, respectively. Fraction 7 presented the smaller EVs, although mixed with some plasmatic protein contaminants. The expression of EV markers such as CD63, HSP70 or Syntenin-1 was confirmed and allow to distinguish EV subpopulations between fractions 3 to 7. The expression of leukemia-specific markers is currently being studied in the EVs isolated from the paired AML blood samples.

**Conclusion:** The presented EV-based liquid biopsy proposed method for AML monitoring could unravel biomarkers for diagnostic and prognostic purposes in AML patients.
### PS182

**Cellular interaction in central and peripheral immune organs due to chronic light stress**

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**Aim:** Study cellular interaction in central and peripheral immune organs at prolonged all-day illumination in an experiment on rabbits.

**Introduction:** Prolonged all-day illumination is considered nowadays as one of the stress-factors for the living organism and causes malfunctions of the neuroendocrine system and may initial immune dysfunction.

**Methods:** Experimental rabbits (n = 10) were in artificial lighting in the day and electric lighting at night during 12 months. Control animals (n = 5) were kept in natural day and night lighting conditions. Cell density in immune organs (thymus, bone marrow, spleen) were measured in surface area which was determined by a rectangle. 100 × 100 μm. The results were processed with standard statistical methods and reported as mean ± standard deviation (SD).

**Results:** The cell density in the thymus and the bone marrow was decreased: in the cortex of the thymus was 359.6 ± 2.9, in the medullar part – 250.8 ± 2.9, in the bone marrow – 176.4 ± 2.9 (cells in 100 × 100 μm). An intensified formation of the connective tissue, an increasing of involutive processes and degenerative changes of lymphocytes were microscopically found in the spleen and the thymus. The cell density in the spleen was decreased too: in T zone – 235.8 ± 3.7, in B-zone – 159.5 ± 1.9 (cells in 100 μm × 100 μm). The causes of these changes, probably, may be decrease of the differentiation and migration of lymphocytes as result negative influence of the prolonged light on central immune organs.

**Conclusion:** These changes in organs of the immune system indicate both a premature aging of the spleen and the thymus and probably of all the immune system. Significant reduction in cell density in the immune organs associate with negative effects of the chronic light stress and leads to expressed immune dysfunction.

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### PS217

**Intermittent low-level lead exposure causes anxiety and cardiorespiratory impairment**

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**Aim:** The increased levels of BKV replication are associated with a higher incidence of mutations in the BC loop of VP1, and mutations in this domain may lead to changed tropism and the selection of more aggressive variants of BKV. Further studies are needed in order to select the patients with a higher risk of developing BKV associated-diseases.

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