

1ª edição - Jornadas do Programa Doutoral em  
Metabolismo – Clínica e Experimentação

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## **BOCK OF ABSTRACTS**



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infiltration levels. In contrast, megakaryocyte-erythrocyte progenitors, were lost only at high infiltration rates. A reduction in the proliferation of erythroblasts that develop within the EBI niche was observed. Consistently, native EBIs and nurse cells were largely lost in AML. The loss of nurse cells was also confirmed in human AML samples.

**Conclusions:** This study revealed that in AML there is a disruption of an important niche for the development of erythropoiesis – the EBI, which induces a loss of erythroblasts. Future studies are needed to explore the mechanism underlying the loss of EBI function and of nurse cells in AML, which will have important implications in the management of patients with anemia.

**Key words:** Acute myeloid leukemia; erythropoiesis; erythroblastic island; erythroblasts; nurse cells

#### 4.12. P12 – Cátia Ramos

##### The impact of aberrant glycosylation in gastric cancer cells aggressiveness and metabolism

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**Background:** De novo synthesis of aberrant glycans by gastric cancer (GC) cells is associated with patients' poor survival. Our group demonstrated that these glycans could enhance cancer cell aggressiveness in vitro and in vivo by activating key signalling pathways. In addition, we were pioneer in detecting these glycans in GC extracellular vesicles (EVs). In this study we aimed to explore the impact of aberrant glycans in GC cell behaviour. In addition, the impact of EVs carrying these glycans in reprogramming the phenotypic behaviour of recipient cells was also evaluated.

**Methodology:** We studied the migration capacity (wound-healing assay) and metabolic activity (seahorse) of GC cells displaying different aberrant glycosylation. Furthermore, we isolated EVs from the same models by ultracentrifugation and characterized by transmission electron microscopy (TEM), nanoparticle tracking analysis (NTA) and western blot (WB). The migration capacity of GC cells treated with EVs carrying aberrant glycans was also evaluated.

**Results:** The presence of aberrant glycans induced alterations in the migration capacity and metabolic activity of GC cells. Furthermore, GC cells displaying tumor-associated glycans secreted larger amounts of EVs and an enrichment of the aberrant glycans were observed in EVs when compared to the parental cells. Interestingly, we observed that EVs carrying aberrant glycans were able to induce increased migration in different GC recipient cell lines, in contrast to control EVs.

**Conclusions:** We have demonstrated that aberrant glycosylation induces alterations in the biological behaviour and activity of GC cells. Furthermore, those alterations could be transferred to recipient cells by GC EVs. We will further explore the capacity of EVs in reprogramming recipient cells' behaviour and metabolism in vitro and using animal models.

**Key words:** Gastric Cancer; Glycosylation; Extracellular Vesicles; Metabolism; Migration.

#### 4.13. P13 – Anna Carolina Cortez-Ribeiro

##### Olive oil consumption and maternal-fetal outcomes: a systematic review of the evidence

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**Background:** Nutrition plays a significant role during pregnancy. The risk of maternal-fetal complications decreases with a balanced eating pattern. For instance, the Mediterranean diet is correlated with improved health status and reduced risk of gestational diabetes, preeclampsia, hypertension, and pre-term birth. Olive oil is an essential component of this dietary pattern. Thus, the aim of this study was to systematically review the evidence between olive oil consumption and the risk of adverse maternal-fetal outcomes.

**Methodology:** The study was guided by the PICO protocol and the following research question: “How does olive oil consumption/supplementation affect maternal-fetal outcomes compared to non/low-consumption in pregnant women?”. We searched the Web of Science, Scopus, PubMed, and Biblioteca Virtual em Saúde electronic databases (October and November 2021). The keywords used were pregnancy, olive oil, and pregnancy outcomes. The review included all the available studies in English and Portuguese. Exclusion criteria were as follows: (i) unrelated to olive oil consumption, (ii) other outcomes, and (iii) animal studies.

**Results:** Nine articles, six experimental and three observational were included. In maternal outcome studies (n=6), a higher olive oil consumption was associated with a lower prevalence of gestational diabetes mellitus, preeclampsia, and cardiovascular disease. In fetal outcome studies (n=8), olive oil consumption was associated with a lower risk for small- or large-for-gestational-age infants.

**Conclusions:** Consumption of olive oil confers protective effects on pregnancy outcomes. However, further studies are needed, specifically designed for the impact of olive oil consumption on maternal-fetal outcomes.

**Key words:** olive oil; maternal-fetal outcomes; pregnancy; review.

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#### 4.14. P14 – Ana Sousa

##### Tryptophan, kynurenine pathway and kidney function in heart failure patients with and without Diabetes Mellitus

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**Background:** Tryptophan (TRP) and kynurenine pathway has been related to cardiovascular disease progression and insulin resistance. We assessed downstream TRP metabolites of the kynurenine