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MEETING ABSTRACTS

THE ROLE OF OXYSTEROLS AND THEIR SIGNICIFANCE IN PANCREATIC CANCER *IN VITRO*

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Oxysterols are 27-carbon derivatives of cholesterol formed by enzymatic, as well as non-enzymatic, oxidation of cholesterol. They participate in cholesterol metabolism and influence many cellular processes, but they are also involved in the etiology of different diseases, including cancer. Previous studies found that oxysterols influence anti-cancer treatment *in vitro*, e.g., the presence of different oxysterols modulates the activity of doxorubicin, 5-fluorouracil, docetaxel, or cisplatin.

The aim of this study is the analysis of the role of nine oxysterols in pancreatic cancer *in vitro*. Two human pancreatic cell lines, Paca-44 (mutated in KRAS gene) and BxPC3 (wild-type) are included in this study. To study the effect of different oxysterols, both cell lines were seeded on a 96-well plate and incubated with a medium containing one of the oxysterols. After 72 hours, the cell viability was measured using a CellTiter-Blue® Cell Viability Assay, and the IC_{50} of each oxysterol was counted.

The IC_{50} of some oxysterols was very similar in both cell lines, yet 25-hydroxycholesterol and 5α,6α-epoxycholestanol efficacy varied between Paca-44 and BxPC3 cells. Moreover, two oxysterols, 27-hydroxycholesterol and 4β-hydroxycholesterol, showed no or very low effect on cell viability in both cell lines. In future studies, we would like to analyze the role of oxysterols on the effect of gemcitabine in pancreatic cancer *in vitro*.

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Keywords: oxysterol; pancreatic; cancer; treatment