

# Publikujeme v zahraničí

Onkológia (Bratisl.), 2020;15(6):461

## KARCINÓM PRSNÍKA

**Buocikova V, Rios-Mondragon I, Pilalis E, Chatziioannou A, Miklikova S, Mego M, Pajuste K, Rucins M, Yamani NE, Longhin EM, Sobolev A, Freixanet M, Puntès V, Plotniece A, Dusinska M, Cimpan MR, Gabelova A, Smolkova B.**

### Epigenetics in Breast Cancer Therapy-New Strategies and Future Nanomedicine Perspectives

**Cancers (Basel). 2020 Dec 3;12(12):E3622.**

Epigenetic dysregulation has been recognized as a critical factor contributing to the development of resistance against standard chemotherapy and to breast cancer progression via epithelial-to-mesenchymal transition. Although the efficacy of the first-generation epigenetic drugs (epi-drugs) in solid tumor management has been disappointing, there is an increasing body of evidence showing that epigenome modulation, in synergy with other therapeutic approaches, could play an important role in cancer treatment, reversing acquired therapy resistance. However, the epigenetic therapy of solid malignancies is not straightforward. The emergence of nanotechnologies applied to medicine has brought new opportunities to advance the targeted delivery of epi-drugs while improving their stability and solubility, and minimizing off-target effects. Furthermore, the omics technologies, as powerful molecular epidemiology screening tools, enable new diagnostic and prognostic epigenetic biomarker identification, allowing for patient stratification and tailored management. In combination with new-generation epi-drugs, nanomedicine can help to overcome low therapeutic efficacy in treatment-resistant tumors. This review

provides an overview of ongoing clinical trials focusing on combination therapies employing epi-drugs for breast cancer treatment and summarizes the latest nano-based targeted delivery approaches for epi-drugs. Moreover, it highlights the current limitations and obstacles associated with applying these experimental strategies in the clinics.

## GASTROINTESTINÁLNE MALIGNITY

**Ciernikova S, Novisedlakova M, Cholujova D, Stevurkova V, Mego M.**

### The Emerging Role of Microbiota and Microbiome in Pancreatic Ductal Adenocarcinoma

**Biomedicines. 2020 Dec 3;8(12):E565.**

Pancreatic ductal adenocarcinoma (PDAC) is one of the most aggressive malignant tumors due to the absence of biomarkers for early-stage detection and poor response to therapy. Since mounting evidence supports the role of microbiota composition in tumorigenesis and cancer treatment, the link between microbiome and PDAC has been described. In this review, we summarize the current knowledge regarding the impact of the gut and oral microbiome on the risk of PDAC development. Microenvironment-driven therapy and immune system interactions are also discussed. More importantly, we provide an overview of the clinical trials evaluating the microbiota role in the risk, prognosis, and treatment of patients suffering from PDAC and solid tumors. According to the research findings, immune tolerance might result from the microbiota-derived remodeling of pancreatic tumor microenvironment.

Thus, microbiome profiling and targeting represent the potential trend to enhance antitumor immunity and improve the efficacy of PDAC treatment.

**Scepanovic D, Masar M, Masarykova A, Bires P, Paluga M, Pobijakova M**

### Rectal Carcinoma Metastasis to the Thyroid Gland -the Role of Radiotherapy: A Case Report.

**American Journal of Cancer Case Reports. November 14, 2020 | Volume 8, Issue 1**

Introduction: To date, a very rare occurrence of thyroid metastases from rectal cancer is described in the literature. Although there are no treatment standards for this condition, surgery still has a major role in the treatment of these patients. However, radiotherapy has a controversial role and its significance is rather palliative. Case Presentation: We presented a male patient with metastatic rectal carcinoma to the thyroid gland who has been treated with surgery and palliative radiotherapy in our institution. Conclusion: Although thyroid metastases from rectal cancer are rare, we recommend to think on their potential occurrence what could enable early diagnosis and more successful treatment

## Abstrakty a príspevky z konferencií

### KARCINÓM PRSNÍKA

**Mego M, Cierna Z, Karaba M, Minarik G, Benca J, Sedlackova T, Kolekova D, Mrvova I, Pindak D, Mardiak J, Kalavska K.**

**Prognostic role of matrix metalloproteinase 9 in early breast cancer. San Antonio Breast Cancer Symposium, December 2020, Virtual.**