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KARCINÓM PRSNÍKA

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Decreased methylation in the SNAI2 and ADAM23 genes associated with de-differentiation and haematogenous dissemination in breast cancers

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Background: In breast cancer (BC), deregulation of DNA methylation leads to aberrant expressions and functions of key regulatory genes. In our study, we investigated the relationship between the methylation profiles of genes associated with cancer invasivity and clinico-pathological parameters. In detail, we studied differences in the methylation levels between BC patients with haematogenous and lymphogenous cancer dissemination.

Methods: We analysed samples of primary tumours (PTs), lymph node metastases (LNMs) and peripheral blood cells (PBCs) from 59 patients with sporadic disseminated BC. Evaluation of the DNA methylation levels of six genes related to invasivity, ADAM23, uPA, CXCL12, TWIST1, SNAI1 and SNAI2, was performed by pyrosequencing.

Results: Among the cancer-specific methylated genes, we found lower methylation levels of the SNAI2 gene in histologic grade 3 tumours (OR = 0.61; 95% CI, 0.39-0.97; P = 0.038) than in fully or moderately differentiated cancers. We also evaluated the methylation profiles in patients with different cancer cell dissemination statuses (positivity for circulating tumour cells (CTCs) and/or LNMs). We detected the significant association between reduced DNA methylation of ADAM23 in PTs and presence of

CTCs in the peripheral blood of patients (OR = 0.45; 95% CI, 0.23-0.90; P = 0.023).

Conclusion: The relationships between the decreased methylation levels of the SNAI2 and ADAM23 genes and cancer de-differentiation and haematogenous dissemination, respectively, indicate novel functions of those genes in the invasive processes. After experimental validation of the association between the lower values of SNAI2 and ADAM23 methylation and clinical features of aggressive BCs, these methylation profiles could improve the management of metastatic disease.

Oravcova I, Mikuskova E, Leitnerova M, Gyarfaz J, Mlcakova A, Szepe P, Plank L, Demitrovicova L, Mikudova V, Cingelova S, Mego M, Drgona L.

A unique clinical presentation of de novo acute promyelocytic leukemia as a myeloid sarcoma of the breast

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Myeloid sarcoma is a rare presentation of acute leukemia as a solid tumor at various extramedullary sites. It may present concurrently, before or after the onset of systemic bone marrow leukemia. Unusual clinical localization may lead to misdiagnosis, or delayed diagnosis and treatment. We describe the first case, to our knowledge, of de novo myeloid sarcoma of the breast confirmed as acute promyelocytic leukemia. Immunohistochemical analysis, flow cytometry, fluorescent in situ hybridization analysis and molecular analysis using RQ-PCR of tissue samples should be routine in determining the correct diagnosis in this setting.

PODPORNÁ LIEČBA

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Boggian K, Bruschi F, Carratalà J, David M, Drgona L, Djurković-Djaković O, Farinas MC, Genco F, Gkrania-Klotsas E, Groll AH, Guy E, Hirzel C, Khanna N, Kurt Ö, Junie LM, Lazzarotto T, Len O, Mueller NJ, Munoz P, Pana ZD, Roilides E, Stajner T, van Delden C, Villena I, Pelloux H, Manuel O.

Toxoplasmosis in Transplant Recipients, Europe, 2010-2014

Emerg Infect Dis. 2018 Aug;24(8):1497-1504.

Transplantation activity is increasing, leading to a growing number of patients at risk for toxoplasmosis. We reviewed toxoplasmosis prevention practices, prevalence, and outcomes for hematopoietic stem cell transplant (HSCT) and solid organ transplant (SOT; heart, kidney, or liver) patients in Europe. We collected electronic data on the transplant population and prevention guidelines/regulations and clinical data on toxoplasmosis cases diagnosed during 2010-2014. Serologic pretransplant screening of allo-hematopoietic stem cell donors was performed in 80% of countries, screening of organ donors in 100%. SOT recipients were systematically screened in 6 countries. Targeted anti-Toxoplasma chemoprophylaxis was heterogeneous. A total of 87 toxoplasmosis cases were recorded (58 allo-HSCTs, 29 SOTs). The 6-month survival rate was lower among Toxoplasma-seropositive recipients and among allo-hematopoietic stem cell and liver recipients. Chemoprophylaxis improved outcomes for SOT recipients. Toxoplasmosis remains associated with high mortality rates among transplant recipients. Guidelines are urgently needed to standardize prophylactic regimens and optimize patient management.