Publikujeme v zahraničí

Onkológia (Bratisl.), 2019;14(3):216-217

Genitourinárne malignity

Pindak D, Rejlekova K, Tomas M, Aziri R, Rovenska E, Puskacova J, Mego M.

Intraoperative tumor lysis syndrome in a giant teratoma: a case report

BMC Surg. 2019 Jun 14;19(1):62. doi: 10.1186/s12893-019-0526-4.

Background: Tumor lysis syndrome is an unusual metabolic emergency in solid tumors. Perioperative occurrence of this syndrome is extremely rare but may have fatal consequences if not detected and treated on time.

Case report: We report a 19-year patient with testicular germ cell tumor after first line chemotherapy with giant growing teratoma syndrome in retroperitoneum. He underwent radical resection, however, perioperatively, a fatal case of heart failure due to unrecognized intraoperative tumor lysis syndrome developed.

Conclusion: Surgeons, anesthesiologists and oncologists should be aware of this complication in order to be prepared for such an emergency.

Chovanec M, Mardiak J, Mego M.

Immune mechanisms and possible immune therapy in testicular germ cell tumours

Andrology. 2019 Jun 6. doi: 10.1111/andr.12656. [Epub ahead of print]

Background: Testicular germ cell tumours (GCTs) are the only universally curable solid malignancy. The long-term cure rate of >95% is attributed to the extraordinary sensitivity to cisplatin-based treatment but a proportion of patients die due to a progression of the chemotherapy-refractory disease. While treatment of a variety of solid cancers was significantly improved with recent immune therapies, the immunology and immunotherapy remained underinvestigated in GCTs.

Objectives: In this narrative review, we summarize evidence about immune-related mechanisms and possible immune therapies in GCTs and provide insights and implications for future research and clinical practice.

Materials and methods: We performed a comprehensive search of PubMed/MEDLINE to identify original and review articles reporting on immune mechanisms and immunotherapy in GCTs. Review articles were further searched for additional original articles.

Results: Clear link of immune surveillance and the presence of GCT have been identified with several novel immune-related prognostic biomarkers published recently. Several case reports, case series, and preliminary results from phase I-II studies are emerging to report on the efficacy of immune checkpoint inhibitors. DISCUSSION: Newly discovered immune biomarkers provide an evidence supporting the role of immune environment in the GCT biology. While these discoveries provide only an initial insight into the immunobiology, strong correlation with prognosis is evident. This provided a premise to investigate the treatment efficacy of novel immunotherapy. Some efficacy of these treatments has been reported in clinical setting; however, the results of published studies with immune checkpoint inhibitor monotherapy seem to be disappointing.

Conclusion: Immune-related mechanisms and efficacy of immune checkpoint blockade in GCTs should be further investigated in preclinical and clinical studies.

Mego M, Svetlovska D, Chovanec M, Reckova M, Rejlekova K, Obertova J, Palacka P, Sycova-Mila Z, De Giorgi U, **Mardiak J.**

Phase II study of avelumab in multiple relapsed/refractory germ cell cancer

Invest New Drugs. 2019 Jun 1. doi: 10.1007/s10637-019-00805-4.

Background: Germ cell tumors (GCTs) are highly curable diseases; however, not all patients can be cured. Patients in their second relapse have especially poor prognoses. PD-L1 expression is significantly higher in GCTs than in normal testicular tissue, and high PD-L1 expression is associated with a poor prognosis. This study aimed to determine the efficacy and safety of avelumab, a PD-L1 inhibitor, in patients with GCTs.

Methods: In this phase 2 study, patients with multiple relapsed and/or refractory GCTs were treated with avelumab at a dose of 10 mg/kg administered biweekly until progression or unacceptable toxicity. The primary endpoint was 12-week progression-free survival (PFS). Fifteen evaluable patients had to be enrolled in the first cohort, and if <8 of 15 patients had 12-week PFS, the study was to be terminated. Here, we report the results of the first stage of the trial.

Results: From November 2017 to January 2018, 8 patients with a median age of 29 years (range, 22 to 52 months) were enrolled. Patients were pretreated with a median of 5 (range, 1 to 6) previous lines of platinum-based therapies; 5 tumors (62.5%) were absolutely refractory to cisplatin, and 5 patients (62.5%) had visceral nonpulmonary metastases. At a median follow-up period of 2.6 months (range, 0.3 to 14.4), all the patients experienced disease progression, and 7 patients (87.5%) died. The twelve-week PFS was 0%, median PFS was 0.9 months (95% CI 0.5-1.9), and median OS was 2.7 months (95% CI 1.0-3.3). Avelumab was well tolerated, and no severe adverse events were observed.

Conclusions: This study failed to achieve its primary endpoint. Our data suggest a lack of avelumab efficacy in unselected multiple relapsed/refractory GCTs.

Suportívna liečba

Albasanz-Puig A, Gudiol C, Parody R, Tebe C, Akova M, Araos R, Bote A, Brunel AS, Calik S, **Drgona L**, García E, Hemmati P, Herrera F, Ibrahim KY, Isler B, Kanj S, Kern W, Maestro de la Calle G, Manzur A, Marin JI, Márquez-Gómez I, Martín-Dávila P, Mikulska M, Montejo JM, Montero M, Morales HMP, Morales I, Novo A, Oltolini C, Peghin M, Del Pozo JL, Puerta-Alcalde P, Ruiz-Camps I, Sipahi OR, Tilley R, Yáñez L, Gomes MZR, Carratalà J; IRONIC study group.

Impact of antibiotic resistance on outcomes of neutropenic cancer patients with Pseudomonas aeruginosa bacteraemia (IRONIC study): study protocol of a retrospective multicentre international study
BMJ Open. 2019 May 24;9(5):e025744.

Introduction: Pseudomonas aeruginosa (PA) has historically been one of the major causes of severe sepsis and death among neutropenic cancer patients. There has been a recent increase of multidrug-resistant PA (MDRPA) isolates that may determine a worse prognosis, particularly in immunosuppressed patients. The aim of this study is to establish the impact of antibiotic resistance on the outcome of neutropenic onco-haematological patients with PA bacteraemia, and to identify the risk factors for MDRPA bacteraemia and mortality.

Methods and analysis: This is a retrospective, observational, multicentre, international study. All episodes of PA bacteraemia occurring in neutropenic onco-haematological patients followed up at the participating centres from 1 January 2006 to 31 May 2018 will be retrospectively reviewed. The primary endpoint will be overall case-fatality rate within 30 days of onset of PA bacteraemia. The secondary end points will be to describe the following: the incidence and risk factors for multidrug-resistant and extremely drug-resistant PA bacteraemia (by comparing the episodes due to susceptible PA with those produced by MDRPA), the efficacy of ceftolozane/tazobactam, the rates of persistent bacteraemia and bacteraemia relapse and the risk factors for very early (48 hours), early (7 days) and overall (30 days) case-fatality rates.

Ethics and dissemination: The Clinical Research Ethics Committee of Bellvitge University Hospital approved the protocol of the study at the primary site. To protect personal privacy, identifying information of each patient in the electronic database will be encrypted. The processing of the patients' personal data collected in the study will comply with the Spanish Data Protection Act of 1998 and with the European Directive on the privacy of data. All data collected, stored and processed will be anonymised. Results will be reported at conferences and in peer-reviewed publications.

Ricna D, Lengerova M, Bezdicek M, Kocmanova I, **Drgona L**, Weinbergerova B, Mayer J, Racil Z.

Detection and identification of fungi in bronchoalveolar lavage fluid from immunocompromised patients using panfungal PCR.
Folia Microbiol (Praha). 2019 May;64(3):421-428.

Rapid diagnostics of fungal pneumonia and initiation of appropriate therapy are still challenging. In this study, we used two panfungal assays to test bronchoalveolar lavage fluid (BALF) samples to prove their ability to confirm invasive fungal disease diagnosis and identify causative agents. Two methods targeting different fungal rDNA regions were used, and the obtained PCR products were sequenced directly or after cloning. In total, 106 BALF samples from 104 patients were tested. After sequencing, we obtained 578 sequences. Four hundred thirty-seven sequences were excluded from further analysis due to duplication (n = 335) or similarity with sequences detected in the extraction control sample (n = 102); 141 unique sequences were analyzed. Altogether, 23/141 (16%) of the fungi detected belonged to pathogenic species, and 63/141 (45%) were identified as various yeasts; a variety of environmental or very rare fungal human pathogens represented 29/141 (21%) of the total and 26/141 (18%) were described as uncultured fungus. Panfungal PCR detected fungal species that would be missed by specific methods in only one case (probable cryptococcosis). Panfungal PCR followed by sequencing has limited use for testing BALF samples due to frequent commensal or environmental fungal species pickup.