KARCINÓM PRSNÍKA

Mego M, Reuben JM

Emerging predictive biomarkers of response to platinum therapy in triple negative breast cancer

Triple negative breast cancer (TNBC) is a heterogeneous disease with different biological characteristics and treatment outcomes compared to other subtypes of breast cancer. Recently, platinum-based chemotherapy has received increased attention in TNBCs based on promising results especially in the neoadjuvant setting. Homologous recombination deficiency (HRD) and tumor infiltrating lymphocytes (TILs) are new emerging biomarkers associated with platinum efficacy. Despite heterogeneity of methods used for HRD assessment, results of published studies showed consistently the predictive value of HRD for efficacy of platinum-based chemotherapy, especially in the neoadjuvant setting. Prognostic value of TILs in TNBCs is consistent across the trials and while the predictive value of TILs for platinum-based therapy in TNBCs is promising, it needs to be confirmed in further trials. Further research should focus on prospective validation of these biomarkers to confirm their clinical utility, while combination of these markers could lead to composite biomarkers that mirror both tumor and microenvironment properties.


Circulating tumor cells (CTC) are associated with defects in adaptive immunity in patients with inflammatory breast cancer
J of Cancer. 2015 (In press)

Background: Circulating tumor cells (CTCs) play a crucial role in tumor dissemination and are prognostic in primary and metastatic breast cancer. Peripheral blood (PB) immune cells contribute to an unfavorable microenvironment for CTC survival. This study aimed to correlate CTCs with the PB T-cell immunophenotypes and functions of inflammatory breast cancer (IBC) patients.

Methods: This study included 65 IBC patients treated at the MD Anderson Cancer Center. PB was obtained from patients prior to starting a new line of chemotherapy for CTCs enumeration by CellSearch® and T cell phenotyping and function by flow cytometry; the results were correlated with CTCs and clinical outcome.

Results: At least 1 CTC (≥1) or ≥5 CTCs was detected in 61.5% or 32.3% of patients, respectively. CTC count did not correlate with total lymphocytes; however, patients with ≥1 CTC or ≥5 CTCs had lower percentages (%) of CD3+ and CD4+ T cells compared with patients with no CTCs or <5 CTCs, respectively. Patients with ≥1 CTC had a lower percentage of T-cell receptor (TCR)-activated CD8+ T cells synthesizing TNFα and IFN and a higher percentage of T-regulatory lymphocytes compared to patients without CTCs. In multivariate analysis, tumor grade and % CD3+ and CD4+ T-cells were associated with ≥1 CTC, whereas ≥5 CTC was associated with tumor grade, stage, % CD3+ and % CD4+ T-cells, and % TCR-activated CD8 T-cells synthesizing IL-17.

Conclusions: IBC patients with CTCs in PB had abnormalities in adaptive immunity that could potentially impact tumor cell dissemination and initiation of the metastatic cascade.

Mego M, Kocifaj M, Kundradic F.

A system and a device for isolation circulating tumor cells from the peripheral blood in vivo

Circulating tumor cells (CTC) play a crucial role in disseminating tumors and in the metastatic cascade. CTCs are found only in small numbers, and the limited amount of isolated CTCs makes it impossible to characterize them closely. This paper presents a proposal for a new system for isolating CTCs from the peripheral blood in vivo. The system enables CTCs to be isolated from the whole blood volume for further research and applications. The proposed system consists of magnetic nanoparticles covered by monoclonal antibodies against a common epithelial antigen, large supermagnets, which are used to control the position of the nanoparticles within the human body, and a special wire made of a magnetic core wrapped in a non-magnetic shell. The system could be used not only for isolating CTCs, but also for in vivo isolation of other rare cells from the peripheral blood, including hematopoietic and/or mesenchymal stem cells, with applications in regenerative medicine and/or in stem cell transplantation.

KARCINÓM PLÚC


J Thorac Oncol. 2015 Sep;10(9):1370–1374.

The Implementation of perSonalized m edicine In NSCLC in Central Europe: EGFR testing, Histopathology, and clinical features (INSIGHT) observational study assessed both implementa
tion of epidermal growth factor receptor (EGFR) mutation testing and treatment of patients with advanced EGFR mutation-positive non-small-cell lung cancer (NSCLC) in a real-world setting in Central Europe. A total of 1785 patients from 14 cancer centers of six Central European countries were enrolled. EGFR mutations were detected in tumors of 13.8% of the patients. More than 70% of patients with advanced EGFR mutation-positive NSCLC received EGFR tyro-
sine kinase inhibitors as first-line therapy. The INSIGHT study demonstrated the establishment of EGFR mutation testing, a mutation rate consistent with other Caucasian patients populations, and adherence to current guidelines regarding treatment of patients with EGFR mutation-positive tumors in Central Europe.

GENITOURINÁRNE MALIGNITY

Ondrusova M, Ondrus D, Miskovska V, Kajo K, Szoldova K, Usakova V, Stastna V.

Management of clinical stage I testicular seminoma: active surveillance versus adjuvant chemotherapy


Purpose: Surveillance after orchiectomy alone has become popular in the management of clinical stage I nonseminomatous germ cell testicular tumors (CSI NSGCTT), and adjuvant chemotherapy has been accepted in high-risk CSI NSGCTT. Because of the late toxicity of standard radiotherapy in CSI testicular seminoma (SGCTT), this therapeutic approach has been accepted also in the management of CSI SGCTT. In the current study, we analyzed single-center experience with risk-adapted therapeutic approaches (active surveillance and adjuvant chemotherapy) in patients with CSI SGCTT.

Patients and methods: The study analyzed a total of 90 patients collected at a single center from April 2008 to March 2015 with CSI SGCTT who were stratified into two groups according to risk-adapted therapeutic approaches.

Results: In the group A (low-risk CSI SGCTT-no rete testis invasion, tumor size <4 cm or pT1 stage), which consisted of 74 patients who underwent surveillance, relapse occurred in seven (9.5%) patients after a mean follow-up of 14.5 months. In the group B (high-risk CSI SGCTT-rete testis invasion, tumor size >4 cm or pT ≥ 2 stage), which consisted of 16 patients who were treated with adjuvant chemotherapy, relapse occurred in two (12.5%) patients after a mean follow-up of 13.8 months. Overall survival of patients in both groups was 100%. The statistically significant difference in progression-free survival between these two groups was not found.

Conclusions: Radiotherapy is currently not recommended as an adjuvant treatment in CSI SGCTT patients. The benefit of using risk-adapted therapeutic approaches in CSI SGCTTs patients is evident.


Personalizing, not patronizing: the case for patient autonomy by unbiased presentation of management options in stage I testicular cancer.


Testicular cancer (TC) is the most common neoplasm in males aged 15–40 years. The majority of patients have no evidence of metastases at diagnosis and thus have clinical stage I (CSI) disease (Oldenburg, J; Fossa SD, Nuver J et al. Testicular seminoma and non-seminoma: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up. Ann Oncol 2013; 24(Suppl 6): vi125-vi132; de Wit R, Fizazi K. Controversies in the management of clinical stage I testis cancer. J Clin Oncol 2006, 24: 5482-5492]. Management of CSI TC is controversial and options include surveillance and active treatment. Different forms of adjuvant therapy exist, including either one or two cycles of carboplatin chemotherapy or Radiotherapy for seminoma and either one or two cycles of cisplatin-based chemotherapy or retroperitoneal lymph node dissection for non-seminoma. Long-term disease-specific survival is ~99% with any of these approaches, including surveillance. While surveillance allows most patients to avoid additional treatment, adjuvant therapy markedly lowers the relapse rate. Weighing the net benefits of surveillance against those of adjuvant treatment depends on prioritizing competing aims such as avoiding unnecessary treatment, avoiding more burdensome treatment with salvage chemotherapy and minimizing the anxiety, stress and life disruption associated with relapse. Unbiased information about the advantages and disadvantages of surveillance and adjuvant treatment is a prerequisite for informed consent by the patient. In a clinical scenario like CSI TC, where different disease-management options produce indistinguishable long-term survival rates, patient values, priorities and preferences should be taken into account. In this review, we provide an overview about risk factors for relapse, potential benefits and harms of adjuvant chemotherapy and active surveillance and a rationale for involving patients in individualized decision making about their treatment rather than adopting a uniform recommendation for all.