Clinical Cancer Research
Highlights
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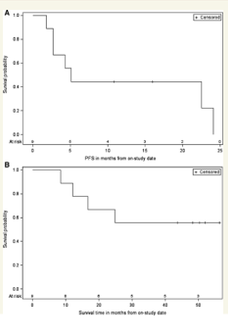
Selected Articles from This Issue

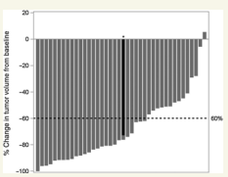
Vandetanib in SDH-Deficient Gastrointestinal Stromal Tumors



Most pediatric gastrointestinal stromal tumors (GIST) are wild type for both *KIT* and *PDGFRA* and have limited response to KIT inhibitors, such as imatinib. Many of these tumors also lack succinate dehydrogenase (SDH), and preclinical models related SDH deficiency to increased HIF1α. In a phase II trial, Glod and colleagues assessed vandetanib, an orally available tyrosine kinase inhibitor targeting the HIF1α-induced VEGFR2 in SDH-deficient GIST. Dose adjustments led to a tolerable regimen, leading to prolonged stable disease in two of nine patients, but there were no partial or complete responses. Therefore, vandetanib is not active in SDH-deficient GIST, further necessitating the identification of therapeutic targets in this disease. ■

See article by Glod et al., p. 6302

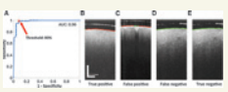
Hu14.18K322A with Induction Chemotherapy for Neuroblastoma



The current standard treatment for high-risk neuroblastoma includes a monoclonal antibody (mAb) that targets the disialoganglioside GD2 on neuroblasts. While the anti-GD2 mAb is administered at the end of therapy to avoid chemotherapy-induced immunosuppression, recent preclinical work in several cancer models has demonstrated that concurrent chemotherapy with monoclonal antibodies may prove beneficial. In a phase II trial, Furman and colleagues assessed the efficacy of the addition of an anti-GD2 antibody to induction chemotherapy for neuroblastoma. The addition of anti-GD2 mAb hu14.18K322A to induction chemotherapy produced early partial responses in most patients and yielded an encouraging 2-year event-free survival. These results, if validated in a larger trial, may prove practice-changing. ■

See article by Furman et al., p. 6320

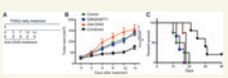
AI-Assisted OCT-Guided Glioma Surgical-Margin Detection



For surgery to remove glioma lesions, tumor margin detection is of utmost importance to preserve adjacent normal brain tissue. Juarez-Chambi and colleagues developed and validated an artificial intelligence (AI) assisted computational method for brain cancer margin detection. Using this method, cancer can be identified with high levels of sensitivity (~100%) and specificity (~85%) for detecting glioma-infiltrated tissue with high spatial resolution. Furthermore, this method can be implemented within generic Optical Coherence Tomography instruments to enable real-time detection of brain cancer infiltration during surgery to maximize tumor removal and potentially improve outcomes of glioma patients. ■

See article by Juarez-Chambi et al., p. 6329

OX40 Agonist-Based Cancer Immunotherapy



While cancer immunotherapy has shown great promise, many patients' tumors are resistant to currently available immunotherapy agents. Thus, there remains a critical need to identify alternative strategies for effective immunomodulating therapy. Peng and colleagues used animal models and patient samples to evaluate OX40 agonist treatment. OX40 agonist augmented the activity of anti-tumor CD8+ T cells as well as the generation of tumor-specific T cell memory. Furthermore, combining OX40 agonists with GSK2636771, a PI3Kβ inhibitor, decreased tumor growth and prolonged survival of mice with PTEN-null melanomas. These results justify further evaluation of OX40 agonists, especially in conjunction with targeted therapies. ■

See article by Peng et al., p. 6406

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