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Brain Cancer in Children and Young Adults

Nationwide therapy network meets at the German Cancer Research Center

Specialists for pediatric brain tumors from all over Germany will meet in Heidelberg on March 15 and 16 to discuss current diagnosis and treatment options for young patients. Internationally renowned experts will report the latest findings on hereditary brain tumors, innovative targeted drugs and new standards in the assessment of treatment outcomes focusing not only on tumor size but also on brain functions. Scientists and clinicians from the German Cancer Research Center (Deutsches Krebsforschungszentrum, DKFZ), the Pediatric Department of Heidelberg University Hospital and Charité University Medicine Berlin are organizing the conference in cooperation with the German Childhood Cancer Foundation.

Approximately 500 children and young people are newly diagnosed with brain cancer in Germany every year. "Fortunately we can cure most of them from their disease," says Professor Olaf Witt, divisional head at DKFZ and pediatrician at Heidelberg University Hospital, who is one of the conference scientific directors. This is partly due to excellent networking of pediatric oncologists in Germany. Almost all children suffering from cancer are treated within clinical trials. "All pediatric oncologists in Germany are in contact with each other, they regularly share optimal strategies and thus ensure that the children obtain the best available diagnosis and therapy." For more than a decade, the German Childhood Cancer Foundation has been supporting a research network conducting studies on the treatment of children and young adults suffering from brain cancer.

In high-grade glioma, a particularly aggressive brain tumor, chances of survival are still poor compared to great advances in other pediatric oncology fields. Scientists and clinicians currently hope for novel, targeted drugs. "Ideally, they attack only cancer cells without damaging healthy tissue. Therefore they usually have fewer side effects than conventional chemotherapy," says Professor Stefan Pfister, a physician and scientist, who also works both at DKFZ and at the Pediatric University Hospital. "In Heidelberg, we pursue a project of the International Cancer Genome Consortium where we are searching for mutations in the genome of pediatric brain cancer cells as. We aim to come across potential new targets for developing new drugs." At the upcoming conference, international experts will report on new developments in this field. Renowned pediatric oncologist Mark Kieran of Harvard Medical School, for example, will talk about new inhibitors of signaling pathways which are only active in brain tumor cells. "We have achieved surprising effects using such approaches in individual treatment trials," Olaf Witt says.

In the field of radiotherapy of brain cancer, Heidelberg radiotherapists also report positive results. The Heidelberg Ion Therapy Center (HIT) of Heidelberg University Hospital already delivers treatment to children and young adults on a regular basis. "The results are very promising," Professor Stephanie Combs reports, "because we can irradiate tumors much more precisely. This is particularly important for children, whose brain is not yet fully developed."

Particularly in low-grade tumors, which rarely take a fatal course and lend themselves well to treatment, it is of great importance to avoid long-term adverse effects of intensive therapy. "We are currently witnessing a paradigm change," says Olaf Witt. "It is not only about shrinking the tumor as much as possible, but another priority of treatment is to restore or

preserve brain functions." The question of how to define and diagnose "brain functions" will be discussed at the conference.

The conference on "Hirntumoren im Kindes- und Jugendalter" (Brain tumors in children and young adults) will take place on March 15 and 16, 2013 at the German Cancer Research Center (Deutsches Krebsforschungszentrum, DKFZ) in collaboration with Heidelberg University Hospital and the National Center for Tumor Diseases (NCT) Heidelberg.

DKFZ's Cancer Information Service (KID) provides answers to all questions about cancer, also about pediatric cancer, free of charge daily from 8 a.m. to 8 p.m. at 0800-420 30 40 within Germany or via e-mail at krebsinformationsdienst@dkfz.de. From abroad the telephone number is +49 (0)6221 999 8000 (chargeable). The German Childhood Cancer Foundation (Deutsche Kinderkrebsstiftung) provides information about pediatric tumors at its information portal at www.kinderkrebsinfo.de.

The German Cancer Research Center (Deutsches Krebsforschungszentrum, DKFZ) with its more than 2,500 employees is the largest biomedical research institute in Germany. At DKFZ, more than 1,000 scientists investigate how cancer develops, identify cancer risk factors and endeavor to find new strategies to prevent people from getting cancer. They develop novel approaches to make tumor diagnosis more precise and treatment of cancer patients more successful. The staff of the Cancer Information Service (KID) offers information about the widespread disease of cancer for patients, their families, and the general public. Jointly with Heidelberg University Hospital, DKFZ has established the National Center for Tumor Diseases (NCT) Heidelberg, where promising approaches from cancer research are translated into the clinic. In the German Consortium for Translational Cancer Research (DKTK), one of six German Centers for Health Research, DKFZ maintains translational centers at seven university partnering sites. Combining excellent university hospitals with high-profile research at a Helmholtz Center is an important contribution to improving the chances of cancer patients. DKFZ is a member of the Helmholtz Association of National Research Centers, with ninety percent of its funding coming from the German Federal Ministry of Education and Research and the remaining ten percent from the State of Baden-Württemberg.

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