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## The effect of Reiki therapy on quality of life of patients with blood cancer: Results from a randomized controlled trial

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The presentation has as principal objective that gives the testimonial of my experience with adult patients with blood cancer. Showing the necessity of defining and conceptualize the Reiki as an holistic therapy, I will introduce some scientific studies, that help knowing and understanding this therapy, speaking of my investigation project, developed in this kind of patients, between 2007-2009, at the S. João Hospital. Briefly I will refer to the sample and speak about the methodology used. It was applied by the instrument for the statistical data collection, WHOQoL-Bref, OMS, in the Portuguese version. I will explain how the therapies function complemented with the contribution and testimonial of the patients through a video presentation. At last, I will present the conclusions. This investigation was considered pioneer in Portugal.

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## Novel-B RAF inhibitors as targeted therapeutics for pediatric low-grade astrocytoma

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**Introduction:** Activating mutations in BRAF are identified in roughly 85% of all pediatric low-grade astrocytomas (PLGAs), either as the V600E point mutation (10%) or as a truncated fusion duplication (most commonly called the KIAA1549:BRAF). First generation RAF inhibitors approved for melanoma are only effective on tumors that express the canonical BRAFV600E oncoprotein. These drugs (type I antagonists that target the "DFG-in" conformation of the kinase) fail to block signaling of other point mutations in BRAF as well as the KIAA1549: BRAF truncated fusion forms. In fact, these inhibitors result in activation of downstream signaling of the KIAA1549: BRAF forms due to a complex feedback loop.

**Purpose:** We evaluated the activity of Type II RAF inhibitors (targeting the "DFG-out" conformation of the kinase) in BRAF mutant and truncated fusion variants of pediatric low-grade gliomas.

**Methods:** We developed pathway relevant model systems for the two major BRAF abnormalities seen in PLGAs for use as a drug screen *in vitro* andtumor response assay *in vivo*. In addition, an organoid ex vivo assay was developed to assess fresh tumor sample response to drugs. Mass spectroscopy imaging was also used to screen for those drugs that could penetrate the intact blood brain barrier.

**Results:** A number of compounds were identified, including two different type II BRAF inhibitors that were capable of inhibiting downstream activation of pERK for both point mutations and the truncated fusion forms of BRAF. One compoundwas active on authentic human PLGA cells and also showed excellent CNS penetration. Based on these results, the first pediatric patient with a progressive low-grade astocytoma has undergone treatment with this agent.

**Conclusions:** Type II BRAF inhibitors have a unique mechanism of action that results in broad inhibitory activity for both the different point mutations and common structural abnormalities of BRAF in pediatric low-grade gliomas.

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