

Beta-blockers may boost chemo effect in childhood cancer

May 22 2013



Beta-blockers, normally used for high blood pressure, could enhance the effectiveness of chemotherapies in treating neuroblastoma, a type of children's cancer, according to a new study published in the *British Journal of Cancer*, today (Wednesday).

Researchers from the Children's Cancer Institute Australia (CCIA) found that three beta-blockers (carvedilol, nebivolol and propranolol) were able to slow the growth of neuroblastoma [cancer cells](#) grown in the lab, and when combined with chemotherapy these anti-cancer effects were increased. When the [chemotherapy](#) drug vincristine was added together with beta-blockers, survival was greatly improved in mice.

Study lead author Dr Eddy Pasquier, Senior Research Officer in the Tumour Biology and Targeting Program at CCIA, said: "Three of the

seven different beta-blockers tested in the lab all slowed tumour growth. When combined with these beta-blockers, vincristine was four times more effective than when used alone."

Neuroblastoma is a cancer that develops from [nerve cells](#) left over from a baby's development in the womb. Around 100 children are diagnosed with neuroblastoma each year in the UK, most of whom are under the age of 5. Despite the number of children surviving neuroblastoma rising from 17 per cent in 1971 to 64 per cent today, the aggressive form of the disease is still very hard to treat successfully.

Dr Julie Sharp, senior science information manager at Cancer Research UK, said: "We urgently need more effective treatments for children with neuroblastoma, and this research opens up a new avenue to explore. But this approach has only been tested in mice, and may not have the same effect in children, so more work needs to be done to show whether this might work in the clinic."

More information: Pasquier E. at al. Beta-blockers increase response to chemotherapy via direct anti-tumour and anti-angiogenic mechanisms in neuroblastoma, *British Journal of Cancer*, 2013.

Provided by Cancer Research UK

Citation: Beta-blockers may boost chemo effect in childhood cancer (2013, May 22) retrieved 20 March 2024 from

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