

Combining anti-tumor drugs with chemo may improve rare children's cancer outcomes

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Credit: Pavel Danilyuk from Pexels

Children who develop neuroblastomas, a rare form of cancer which develops in nerve cells, may benefit from receiving certain anti-tumor drugs as well as chemotherapy, a new trial has found.

The results of the BEACON trial conducted by the Cancer Research UK Clinical Trials Unit at the University of Birmingham found that combining anti-angiogenic drugs, which block tumors from forming [blood vessels](#), alongside various chemotherapy drugs led to more young people seeing their tumors shrinking, from 18% in the [control group](#) to 26% among those on Bevacizumab.

The findings are [published](#) in the *Journal of Clinical Oncology*. The trial saw 160 [young people](#) aged 1–21, from 43 hospitals in 11 European countries, randomized with half receiving the anti-angiogenic drug called Bevacizumab on top of conventional therapy.

The group who received Bevacizumab had an increase in the likelihood of responding to treatment, from 18% among those who only had the established therapy to 26% for those with the additional drug. Patients who received Bevacizumab additionally had better one year progression-free survival rates.

The trial constituted one of many collaborations between the University of Birmingham and European expert groups SIOPEN (International Society of Pediatric Oncology European Neuroblastoma) and ITCC (Innovative therapies for [children](#) with cancer).

Simon Gates, Professor of Biostatistics and Clinical Trials at the University of Birmingham and senior lead author of the paper said, "These are very exciting results that hopefully get us closer to finding treatments for children who develop neuroblastomas. Currently, the outcomes are really poor for children who get this horrible cancer and so even seemingly small increases in the chance that a patient is going to be able to shrink their tumors is significant.

"We are delighted that the BEACON trial has helped to shape treatment for children with relapsed and refractory neuroblastoma going forward."

Dr. Lucas Moreno, Head of Pediatric Hematology and Oncology at Vall d'Hebron University Hospital, Barcelona, Spain and Chief Investigator for the study said, "BEACON was a hypothesis-generating trial that has served to identify active regimens that are now being further investigated. We are delighted that the data generated has been incorporated into the current UK Clinical Practice Guidelines and Bevacizumab is incorporated into [standard treatment](#) for relapsed neuroblastoma."

Dr. Laura Danielson, Children and Young People's Research Lead at Cancer Research UK said, "There are limited effective treatment options available for children whose neuroblastoma has not responded or come back after initial treatment. The results from the BEACON trial provide more hope to these families by finding a drug combination that is better at treating the disease than standard chemotherapy alone.

"These incremental improvements in treatment can make all the difference for [cancer patients](#) and it's fantastic to see that the standard of care across the UK has already been updated based on these results giving children with neuroblastoma more treatment options.

"Meanwhile, more work is still needed to achieve greater survival and long-term quality of life for children affected by [neuroblastoma](#) and this trial is helping to pave the way for studies to better understand the biology of this disease and further efforts to improve outcomes."

More information: Lucas Moreno et al, Bevacizumab, Irinotecan, or Topotecan Added to Temozolomide for Children With Relapsed and Refractory Neuroblastoma: Results of the ITCC-SIOPEN BEACON-Neuroblastoma Trial, *Journal of Clinical Oncology* (2024). [DOI: 10.1200/JCO.23.00458](https://doi.org/10.1200/JCO.23.00458)

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