

Potential treatment option for children with Ewing's sarcoma

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A research consortium made up of the Virgen del Rocio hospital in Seville, Sant Joan de Deu and the Bellvitge Biomedical Research Institute (IDIBELL) in Barcelona, has found a new therapeutic alternative for children who suffer from a malignant pediatric tumor bone and soft tissue called Ewing's sarcoma.

Researchers have combined two [active ingredients](#) (Olaparib and Trabectedin), and in animal models have shown that improves the sensitivity of [cancer cells](#) to these drugs, which seems to increase its effect. In fact, they have been observed complete remission of cancer in 100% of cases for a very long time. The study results are published in the journal *Oncotarget*.

Ewing's sarcoma is the second most common [bone cancer](#) and affects children and youth. Currently, if diagnosed early and there is no metastasis, it can be cured in 80% of cases. But between 25% and 30% of cases are diagnosed when it has metastasized and survival drops to 20%.

"Our results demonstrate that the combination of trabectedin and Olaparib could be a new therapeutic strategy that should be studied in greater depth so that it can benefit patients with this disease in the near future," said Enrique de Alava, director of the Unit Management Clinical Pathology Virgen del Rocio Hospital in Seville and Molecular Pathology group at IBIS.

Efficient combination

It has been observed as Ewing's sarcoma cells need to keep repairing mechanisms of DNA damage in good condition to survive and continue to divide. "Trabectedin, however, causes breaks and abnormal DNA structure of the [cancer](#) cell, which induces cell death. And Olaparib works on the same line, blocking the action of a gene (PARP1), whose function is to repair DNA damage when it detects lesions "explained the head of the group IDIBELL Sarcomas, Oscar Martínez Tirado

The combination of both drugs is synergistic and can eliminate the DNA repair system full, obtaining a much more powerful than that achieved with the application of each drug individually antitumor effect.

More information: Ordóñez JL, Amaral AT, Carcaboso AM, Herrero-Martín D, Del Carmen García-Macías M, Sevillano V, Alonso D, Pascual-Pasto G, San-Segundo L, Vila-Ubach M, Rodrigues T, Fraile S, Teodosio C, Mayo-Iscar A, Aracil M, Galmarini CM, Tirado OM, Mora J, de Álava E. "The PARP inhibitor olaparib enhances the sensitivity of ewing sarcoma to trabectedin." *Oncotarget*. 2015 [Epub ahead of print]

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