

INFANT CANCER FACTSHEET

Infantile fibrosarcoma: targeted therapies that are 80% more effective than chemotherapy

Infantile fibrosarcoma is a soft-tissue sarcoma in children, affecting newborns and infants aged on average less than three months. In order to treat it, if surgery is not possible, two options can be considered: classic chemotherapy or a new targeted therapy named larotrectinib. This medication very specifically targets tumors carrying a genetic anomaly, almost constant in the cells of infantile fibrosarcoma (*neurotrophic tyrosine receptor kinase*).

The first comparative study between larotrectinib and chemotherapy

In order to characterize the benefits of this new molecule, the team of Dr. Daniel Orbach, head of the clinical department of the Care, Innovation & Research in Childhood, Adolescent and Young-Adult Oncology center, SIREDO, at Institut Curie, compared this targeted therapy with classic chemotherapy used historically, within the context of a study (EPI-VITRAKVI). The results are conclusive.

“There is an 80% lower risk of relapse and need for additional treatment, such as radiotherapy, amputation or second-line treatment, with larotrectinib,” explains Dr. Daniel Orbach. “It is all the more interesting since the new medication is also much simpler to administer than chemotherapy: a spoonful of syrup given morning and evening to the very young children at home by the parents, as opposed to a central catheter and chemotherapy injections weekly in the outpatient department.”

Better treatment for all children suffering from infantile fibrosarcoma in France

Dr. Daniel Orbach, with the help of Bayer, the laboratory that launched the molecule, presented these promising results to the *Haute Autorité de Santé* (HAS), which led to authorization of reimbursement for larotrectinib in France in March 2023. “These means that all infants with this soft tissue tumor in France can receive this new molecule,” enthuses Dr. Orbach. “Until now, this targeted therapy was proposed only as part of a prospective protocol, named SCOUT, which took place mainly in Ile-de-France (greater Paris region).”

Today the research continues. We have to check whether the molecule causes adverse effects in the long term. “The study is also continuing to analyze the effectiveness of larotrectinib for patients with other tumors carrying the NTRK anomaly, such as common adult cancers and brain tumors in children,” continues Dr. Orbach.



Oral communication/- SOFT TISSUE SARCOMAS Session, October 14, 2023 - Dr. Daniel Orbach - Comparison of Clinical Outcomes of Patients With Infantile Fibrosarcoma Treated With Larotrectinib in the SCOUT Study Versus Historical Cohort - THE EPI-VITRAKI STUDY

Spontaneous regression remains very rare in infantile fibrosarcoma

Infantile fibrosarcoma is a rare malignant tumor (4.3 cases per million children per year) that occurs mainly in children under one year of age. For this reason it may be tempting to hope for spontaneous regression to avoid treating newborn babies. But is this a good idea? To find out, **Dr. Daniel Orbach and his colleagues collected cases of infantile fibrosarcoma that regressed alone in France, Germany, Dublin and a part of Italy between 2006 and 2016. The result? Fewer than 5% of them regressed spontaneously.** "Given that this cancer carries a good prognosis, waiting to see how it evolves does not seem like a reasonable option," explains Dr. Daniel Orbach. "The tumors grow quickly and even though they do not frequently metastasize, they may end up requiring disfiguring surgery. It may be possible to delay the operation for a few weeks, to give a newborn some more time, but in most cases the tumor will not disappear by itself."

As for the question of which mechanisms may cause the occasional spontaneous regression of infantile fibrosarcoma, it remains unanswered. As this physician-researcher explains, "there are so few cases that there is not enough data to study the subject."

Oral communication/INTERESTING SOLID TUMORS Session - October 14, 2023 - Dr, Daniel Orbach – *Does spontaneous infantile fibrosarcoma regression exist?*