Selumetinib active in children with neurofibromatosis type 1

December 29 2016

(HealthDay)—The oral selective inhibitor of MAPK kinase 1 and 2,

selumetinib, is active in children with neurofibromatosis type 1 and inoperable plexiform neurofibromas, according to a study published in the Dec. 29 issue of the *New England Journal of Medicine*.

Eva Dombi, M.D., from the Center for Cancer Research in Bethesda, Md., and colleagues conducted a phase 1 trial of selumetinib in children with neurofibromatosis type 1 and inoperable plexiform neurofibromas. Selumetinib was administered twice daily at a dose of 20 to 30 mg/m^2 of body-surface area. Selumetinib was also tested using a mouse model of neurofibromatosis type 1-related neurofibroma.

Twenty-four children (median tumor volume, 1,205 ml) received selumetinib. The researchers found that children were able to receive selumetinib on a long-term basis, with a median of 30 cycles (range, six to 56 cycles). A dose of 25 mg/m^2 was the maximum tolerated. Acneiform rash, gastrointestinal effects, and asymptomatic creatine kinase elevation were the most common toxic effects associated with selumetinib. Seventeen of the 24 children (71 percent) had confirmed partial responses with selumetinib treatment; 67 percent of 18 mice had decreases from baseline in neurofibroma volume. There was no evidence of disease progression to date (tumor volume increase of ≥20 percent from baseline).

"Our early-phase data suggested that children with neurofibromatosis type 1 and inoperable plexiform neurofibromas benefited from long-term dose-adjusted treatment with selumetinib without having excess toxic effects," the authors write.

The trial was partially funded by AstraZeneca, which provided the selumetinib.

More information: Full Text (subscription or payment may be required)