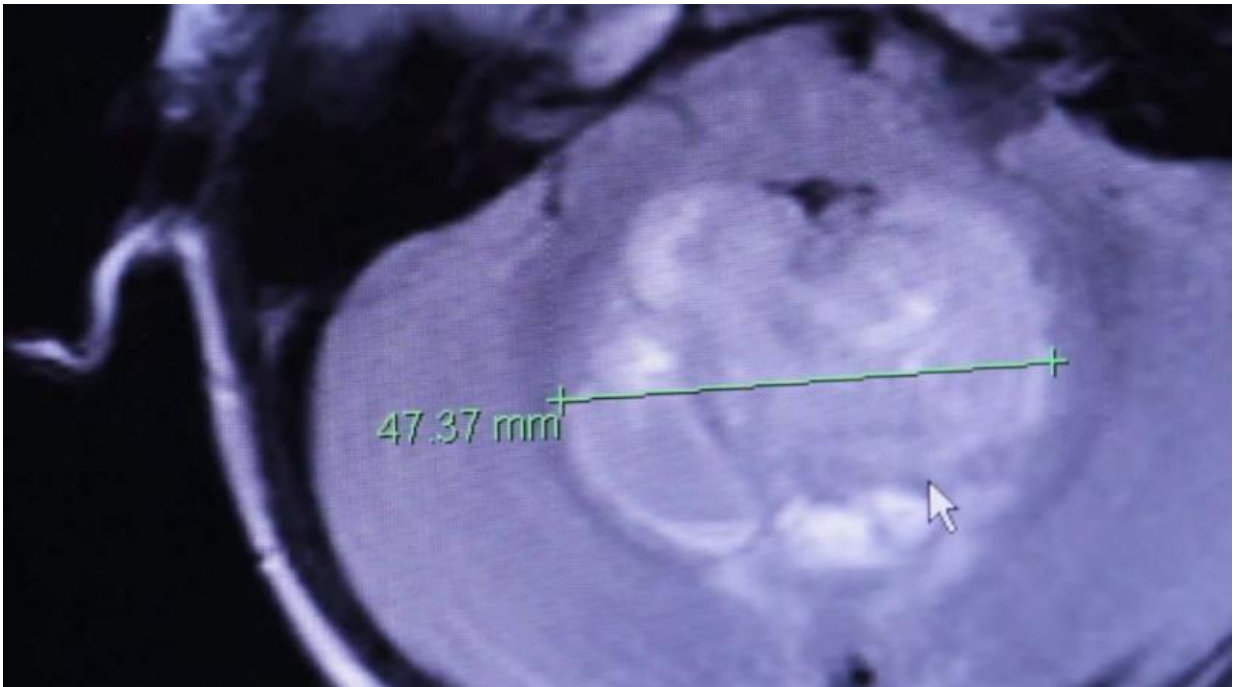


Fluorescent dye undergoing trials for pinpointing brain tumors

April 9 2015, by Bob Yirka



(MedicalXpress)—A team of doctors and researchers at Cedars Sinai Medical Center in Los Angeles is taking a new dye into medical trials to see if it might help make for a better outcome for patients undergoing brain surgery to have a tumor removed—the dye is meant to highlight the tumor making it easier to differentiate between tumor and brain tissue.

The dye was developed after it was learned that chlorotoxin, a protein found in [scorpion venom](#) adheres to chloride receptors on the surface of [tumor](#) cells. The second ingredient is actually the dye, a non-toxic biodegradable chemical that glows when exposed to near [infrared light](#). The thinking was that the resultant fluid, if injected into the bloodstream, would cross the [blood-brain barrier](#), flow around in the brain and then stick to a tumor if one existed. To see the tumor better, a surgeon would need only to shine an infrared light on it. The new fluid dye is being made for the team by Blaze Bioscience.

The research is being spearheaded by pediatric oncologist, Doctor Jim Olson, who recently spoke with reporters at NPR—he reported that initial tests with animals proved promising enough to get FDA approval to try it out on human patients. Thus far, the team has tried it with just one patient, who turned out to have a deep tumor, which prevented a near infrared lamp from being used. But after the tumor was removed, they found that it did indeed shine brightly under the light. They plan to do more such deep surgeries before using the technique directly on a tumor that is under operation.

A lot more testing is to be done on the dye, of course, such as to make sure it adheres to all of a tumor—not just parts of it—to discover if it will truly be beneficial to brain cancer benefits. The ideal, Olson said, would be to eliminate surgery altogether as it will never be precise enough to get every tumor cell while simultaneously avoiding cutting out healthy [brain tissue](#)—a better approach would be to figure out how to carry a substance with the chlorotoxin, or other similar substance, that can attack the tumor directly.

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