Japan researchers grow tooth in mouse kidney

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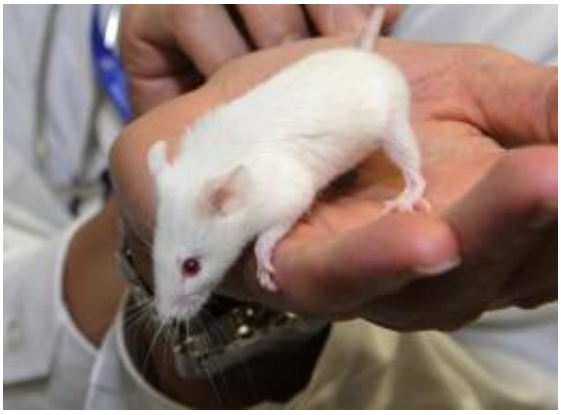

A mouse is pictured in a laboratory in Tokyo. Japanese bio engineers have succeeded in growing a tooth from cells implanted into a mouse kidney, using a technique that could create replacement organs faster than previously tested methods.

Japanese bio engineers have succeeded in growing a tooth from cells implanted into a mouse kidney, using a technique that could create replacement organs faster than previously tested methods.

Biologists have previously cultivated teeth in a laboratory and successfully transplanted them into the jaws of mice, but Japanese researchers have hailed the latest development as offering much faster growth rates.

The latest method "saves about 10 days" compared to earlier techniques, said Tokyo University of Science professor Takashi Tsuji, who led the research.

"It is our first step towards the goal -- to regenerate organs that could replace damaged or lost ones," he said.

"We still haven't got to the point where it can be used for humans," he added. "We have just completed our first step."

The research team, including scientists from Tokyo Medical and Dental University and Tohoku University, developed a "seed" by combining special cells necessary to form a tooth, their research showed.

The cells reacted to each other and started growing into tissues to create a real tooth.

The researchers then wrapped the "seed" in a tiny piece of plastic and implanted it in a mouse's kidney, where it grew to form a tooth, the study showed.

When the tooth was substantially developed, they transplanted it to another mouse's gums, confirming it could adapt to the oral environment and connect to nerves and blood vessels as if it was a real tooth, it said.

The mouse would feel pain and stimulation because the regenerative tooth functions just like a real tooth, the researchers said.

The researchers hope that scientists will eventually be able to use the technique to develop fully functioning bio-engineered organs that can replace lost or damaged organs following disease, injury or aging.

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