Chilean scientists seek alcoholism vaccine

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Chilean researchers said Thursday they are developing a vaccine against alcoholism that could be tested on humans starting next year and works by neutralizing an enzyme that metabolizes alcohol.

The genetic therapy is based on aldehyde dehydrogenase, a group of enzymes that metabolize alcohol and are thus responsible for alcohol tolerance, said Juan Asenjo, who heads a team of researchers at Chile's Faculty of Sciences and Mathematics and the private lab Recalcine.

About 20 percent of the Asian population lacks this enzyme and thus experience "such a strong reaction that it discourages consumption," he added.

The vaccine would similarly increase unease, nausea and tachycardia (accelerated heart beat).

"With the vaccine, the desire to consume alcohol will be greatly reduced thanks to these reactions," Asenjo told Radio Cooperativa.

Researchers have already successfully tested the vaccine on rats who were dependent on alcohol, and got them to halve their consumption.

"The idea is to have 90-95 percent reduction of consumption for humans," Asenjo said.

It would work like patches or pills that help smokers kick the habit, but with better efficiency by specifically targeting liver cells and avoiding

collateral effects on all cells.

This year, researchers plan to focus on mass production of virus cells and conduct tests on animals to determine proper dosage before launching human tests in 2012.

In October, US researchers announced they had discovered a gene variation known as CYP2EI that can protect against alcoholism and could lead to a preventative treatment.

The gene variant known as CYP2EI is linked to people's response to alcohol, and for 10 to 20 percent of people who have it, just a few glasses leads them to feeling more drunk than the rest of the population, said University of North Carolina researchers at the Chapel Hill School of Medicine

This CYP2EI gene -- located in the brain, not the liver -- has long been known to hold an enzyme for metabolizing alcohol, and generates molecules known as free radicals. But a specific variant of the gene makes people more sensitive to alcohol, according to University of North Carolina researchers.

Drugs that can be created to induce the CYP2E1 gene could eventually make people more sensitive to alcohol or help sober them up if they have had to much, according to that research team.