Ethanol Causes Density Reduction of C14 and Cell Damage

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Published Date: 06-20-2018

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In response to growing concern about the health effects of ethanol, Ueno University Professor, Professor Ishio Ueno, has conducted an experiment on kidney cancer tissue preserved at room temperature and compared to a healthy tissue, and also showed that the ethanol-induced damage caused by C14 aggregates is directly related to the consumption of ethanol.

The kidney is a muscle which is sensitive to stimuli, like prolonged physical exertion such as drinking and strenuous exercise, which can trigger cellular muscle damage including systemic inflammation. The kidney has its own special macromolecular defense system with macrophages which protect us from surface cell damage. The vulnerability of cells to external damaging agents is being studied.

Carol DePerro, Senior Research Scientist at the Ueno Cancer Center, and co-investigator, Dr Takahashi, Ueno University, and collaborator, Prof. Ueno, worked on the experiment. Carol DePerro, senior research scientist and co-investigator, Ueno Cancer Center, says, â€œIt was very interesting to study the sensitivity of kidney tissue to external cell damage. In a commonly used test, samples are exposed to external cell damage and that may activate the macrophages so that they function more normally. In this experiment, we tried to determine how synergistic the macrophages are. If they can adapt to external cell damage and act as a screen for cells in cell death, then this will confirm the impact of exposure to external cells damage on cell function.â€

Professor Ueno, Ueno Cancer Center, noted that there are questions related to ethanol consumption and kidney cell damage. First, as ethanol is produced from corn, it does not have the nutritional value of that found in milk. Second, most countries restrict the intake of alcohol to protect the population. Third, it is unclear how drinking ethanol affects the kidney function. After interviewing various experts and living the experience of the Japanese diet, Ueno and his team investigated ethanolâ€™s effect on kidney cells and how mitochondria function.

He explains, â€œWe injected water or ethanol particles that look like very small copper particles on the cells. We identified C14, and it only became detectable when we boosted its concentration. We observed that ethanol actually activated some cellular proteins, such as tumor necrosis factor which is activated by C14. This results in a threat to membrane integrity and also intracellular chain reaction. Chronic high exposure of C14 binds to membrane and holds the cell together in a pathological condition which led to metabolic dysfunction resulting in cell death.

Ueno concludes, â€œIt was interesting to experience a signal that was adapted to external cell damage.â€ Therefore, more research needs to be done to monitor the length of time or the amount of time that prolonged consumption of ethanol could lead to cell death in the organ.

A Brown And Black Dog Is Standing In The Woods