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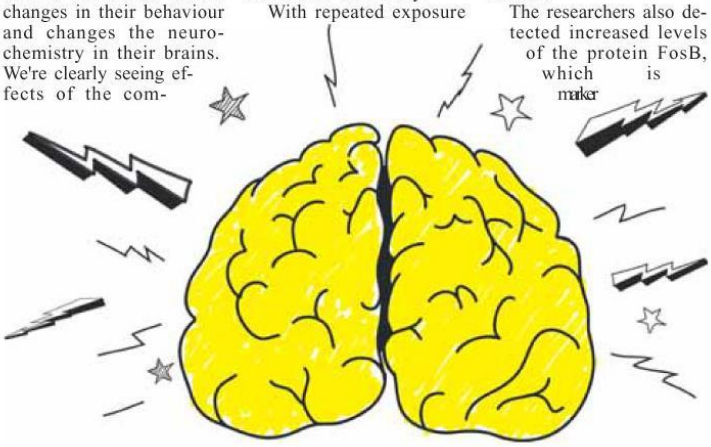
High caffeine drink may affect brain like cocaine

Drinking highly caffeinated beverages mixed with alcohol trigger changes in the adolescent brain which are similar to taking cocaine, suggests a study. The energy drinks can contain as much as 10 times the caffeine as soda and are often marketed to adolescents.

The results published in the journal Alcohol showed that adolescent mice given high-caffeine energy drinks were not more likely than a control group to drink more alcohol as adults.

But when those high levels of caffeine were mixed with alcohol and given to adolescent mice, they showed physical and neurochemical signs similar to mice given cocaine.

"It seems the two substances together push them over a limit that causes changes in their behaviour and changes the neurochemistry in their brains. We're clearly seeing effects of the combined drinks that we would not see if drinking one or the other," said Richard van Rijn, Assistant Professor at the Purdue University.



With repeated exposure to the caffeinated alcohol, those adolescent mice became increasingly more active, much like mice given cocaine.

The researchers also detected increased levels of the protein FosB, which is marker of long-term changes in neurochemistry, elevated in those abusing drugs such as cocaine or morphine.

"That's one reason why it's so difficult for drug users to quit because of these lasting changes in the brain," van Rijn added.

Those same mice, as adults, showed a different preference or valuation of cocaine. They found that mice exposed to caffeinated alcohol during adolescence were less sensitive to the pleasurable effects of cocaine.

While this sounds positive, it could mean that such a mouse would use more cocaine to get the same feeling as a control mouse.

Mice that were exposed to highly caffeinated alcoholic drinks later found cocaine wasn't as pleasurable. They may then use more cocaine to get the same effect," the researcher said. *(IANS)*

Young pregnant women more at risk of stroke: Study

Pregnancy in young women may increase the risk of stroke as compared to their older counterparts of childbearing age, a study has found.

The findings showed that stroke risk was more than doubled in women aged 12 to 24 years and increased significantly by 60 per cent in women 25 to 34 years during pregnancy or post partum period up to six weeks after delivery.

However, there was no difference in stroke risk in women 35 years or older.

"We have been warning older women that pregnancy may increase their risk of stroke, but this study shows that their stroke risk appears similar to women of the same age who are not pregnant," said lead author Eliza C. Miller from Columbia University Medical Centre (CUMC) in New York, US.

"But in women under 35, pregnancy significantly increased the risk of stroke. In fact, one in five strokes in women from that age group were related to pregnancy," Miller added.

Previous studies suggested that the risk of pregnancy-associated stroke is higher in older women than in younger women.

"The incidence of pregnancy-associated strokes is rising, and that could be explained by the fact that more women are delaying childbearing until they are older, when the overall risk of stroke is higher," noted Joshua Z. Willey, Assistant Professor at CUMC and neurologist at New York-Presbyterian Hospital in the US.

In the study, the team examined 19,146 women, aged 12 to 55 years.

Of these, 797 (4.2 per cent) were pregnant or had just given birth.

They found that the overall incidence of stroke during or soon after pregnancy increased with age (46.9 per 100,000 in women age 45 to 55 vs 14 per 100,000 in women age 12 to 24).

However, pregnant and postpartum women in the youngest group (age 12 to 24) had more than double the risk of stroke than non-pregnant women in the same age group (14 per 100,000 in pregnant women vs 6.4 in non-pregnant women).

"We need more research to better understand the causes of pregnancy-associated stroke, so that we can identify young women at the highest risk and prevent these devastating events," Miller said.

The results appear in the journal JAMA Neurology. *(IANS)*

Old blood as good as new for patient survival: Study

Using the freshest blood for transfusion may not necessarily improve patients survival rates, Canadian researchers have found.

The large international study has finally put an end to the contentious issue about whether stored blood could be harmful and fresher blood would be better and showed that the freshest blood did not reduce the proportion of patients who died in hospital, the researchers said. "Our study provides strong evidence that transfusion of fresh blood does not improve patient outcomes, and this should reassure clinicians that fresher is not better," said lead author Nancy Heddle, Professor at McMaster University in Ontario, Canada.

The results may also be a good news for blood suppliers worldwide as having a supply of stored blood helps to ensure that blood is available when a patient needs it, she added.

For the study, the team analysed 31,497 adult patients at hospitals in Australia, Canada, Israel and the US. The findings showed that mortality rate was 9.1 per cent with people receiving the freshest blood, and 8.7 per cent among those receiving the oldest blood.

"Advances in blood storage now allow blood to be stored up to 42 days before transfusion and the usual practice is to use up the blood that has been in storage the longest. But, because there are biochemical, structural and functional changes in the blood during storage, there had been concerns about the use of 'older' blood," explained John Eikelboom, Professor at McMaster University. *(IANS)*

Detox medicine may help prevent age-related ailments

A drug, which is already used in high doses in medical detoxification emergencies, may help prevent many age-related health problems when used at much lower levels, suggests new research conducted on rats.

The drug N-acetylcysteine, or NAC might help maintain levels of a known antioxidant glutathione and prevent the routine metabolic declines associated with ageing, said the study published in the journal Redox Biology.

"Using NAC as a prophylactic, instead of an intervention, may allow glutathione levels to be maintained for detoxification in older adults," the researchers said.

The detoxification compound glutathione, helps resist the toxic stresses of everyday life -- but its levels decline with age and this sets the stage for a wide range of age-related health problems.

"We've known for some time of the importance of glutathione as a strong antioxidant," said lead author Tory Hagen, Professor at

Oregon State University in the US. "What this study pointed out was the way that cells from younger animals are far more resistant to stress than those from older animals," Hagen noted.

Decline of the detoxification mechanisms are linked to cardiovascular disease, diabetes and cancer, according to scientists.

"In young animal cells, stress doesn't cause such a rapid loss of glutathione. The cells from older animals, on the other hand, were quickly depleted of glutathione and died twice as fast when subjected to stress," Hagen said.

"But pre-treatment with NAC increased glutathione levels in the older cells and largely helped offset that level of cell death," Hagen pointed out. *(IANS)*