Passage 3

Cognitive problems caused by Alzheimer's are strongly influenced by a build-up of plaques in the brain. The plaques consist of amyloid beta –a protein that is produced as part of normal brain activity. Alzheimer's patients, however, have elevated levels of amyloid beta, which results in the protein clumping together as plaques. Most antidepressants stimulate the flow of serotonin, which reduces the production of amyloid beta in the brain. This has prompted the researchers to investigate antidepressants as a tool to control amyloid beta production in Alzheimer's.

Initially, results revealed that antidepressants successfully reduced amyloid beta production in the young mice without plaques by 25% after 24 hours. In the next phase, the researchers administered the antidepressant citalopram to older mice with plaques and found that citalopram halted the growth of the existing plaques, while formation of new plaques was reduced by 78% during 28 days. Subsequently, the samples from 23 cognitively unimpaired human subjects showed that amyloid beta production had dropped in the human participants by 37% over the 24 hours following the administration of the citalopram. The researchers, however, concluded that the risks aren't worth it unless we can more definitively prove that these drugs help slow or stop Alzheimer's in humans. For this, we expect results showing a drop in levels of amyloid beta in spinal fluid after two weeks that would allow us to know this beneficial reduction in amyloid beta is sustainable.

131 . The cause of cognitive problems in the brains of Alzheimer's patients is basically the ..... .

a. excessive production of a protein
b. insufficient supply of serotonin
c. existence of depression traits
d. inability to absorb citalopram

132 . Based on the information in the passage, antidepressants are assumed to indirectly ..... in Alzheimer's patients.

a. break clumped proteins apart
b. increase the disposal of amyloid beta
c. prevent proteins from clumping together
d. decrease the production of amyloid beta

133 . In the experiments, the most sustainable results were reported for ..... .

a. mice with no plaques
b. mice which already had plaques
c. cognitively impaired human beings
d. normal human beings with no plaques

134 . According to the researchers of the above study, citalopram has all the following effects <u>EXCEPT</u> ..... .

a. decreasing amyloid beta production
b. reducing the formation of new plaques
c. blocking the growth of the existing plaques
d. halting the production of amyloid beta proteins

135 . It can be inferred from the passage that the antidepressants used in such studies may ..... .

a. have considerable adverse effects
b. have no effect on the human being's brain
c. be prescribed only in chronic cases
d. show no short-term satisfactory results