Evaluation of antibacterial and anti-Alzheimer's disease by inhibiting the production of nano-bio tea polyphenols amyloid fibrils

Milad Irankhah*,

The purpose and background: green tea is products made the leaves and buds of the Camellia sinensis plant. Green tea contains caffeine, catechins, polyphenols, flavonoids, glycoproteins, fiber, lipids and carotenoids. Present research aims to investigate antibacterial activity aqueous extract and alcoholic of tea and anti-Alzheimer's effects tea extract through inhibition of the process of fibril formation in bovine serum albumin. Materials and Methods: at first green tea powdered and then aqueous extract and ethanol (ethanol) was prepared. Antimicrobial effects of the extract on E. coli PTCC 1397 and Staphylococcus aureus strains PTCC 1431 Using antibiogram and create well was done and MIC and MBC values of aqueous extract and ethanol were also determined. Results: inhibition zone diameter in the aqueous extracts of tea in the 15 mm wells has Staphylococcus aureus and growth inhibition zone around of E. coli was 13 mm. Also diameter growth inhibition zone around in the tea extract in the wells of 23 mm have in the Staphylococcus aureus and growth inhibition zone around of E. coli was 25 mm. Result of MIC و MBC for both two bacteria was 50 mg and 100 mg. Increasing the concentration of tea (up 100 percent), reduced by the presence of amyloid fibers and minimum absorption and red shift in the way absorptiometry Congo red was visible. And thus reduce the rate of production of amyloid fibers, confirming the anti-Alzheimer's tea. Conclusion: existence the effective material of caffeine to 98 percent by GC¬¬¬-Mass was confirmed. It can be concluded that proper antibacterial activity of tea has little more side effects less costly rather than other synthetic drugs and can be used as a useful drug to reduce the effects of Alzheimer's disease in humans.

Keywords : Key words: tea extract, catechin, caffeine, anti-microbial, anti-Alzheimer.