

93P Decreasing telomerase activity of adenocarcinoma cancer cell line (AGS) is associated with different concentrations of sodium selenite and cadmium chloride and selenium l methionine

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Background: Selenium (Se) has been recognized as an essential element for animals and humans. In the late 1960s, it was first suggested that selenium might have anti-cancer properties. Selenium controls apoptosis in cell cycle. Cadmium (Cd) is a widely used heavy metal that affects human health through occupational and environmental exposure and has been reported as a cause of cancers such as lung, prostate and kidney. The previous studies on Ovarian and breast cancer have shown that cadmium increases

telomerase activity and expression level of hTERT. In the present study, we find out the effect of sodium selenite and selenium l methionine and cadmium chloride on telomerase activity in adenocarcinoma cancer cell line (AGS).

Methods: The adenoma carcinoma gastric cancer cells (AGS) were cultured in RPMI1640 supplemented with 10 % fetal bovine serum (FBS) and 1% pen/strep. Concentrations of cadmium chloride, selenium l methionine and sodium selenite were added the adenocarcinoma gastric cancer cells (AGS). Finally, the telomerase activity was measured by telomeric repeat amplification protocol (TRAP) and qRT-TRAP assays.

Results: Average telomerase activity (as threshold cycle (CT)) has been detected for three concentrations (5 μ M and 10 μ M and 20 μ M) of the noted compounds. The results were 24.82 ± 0.51 , 25.31 ± 1 and 25.63 ± 1.32 for Sodium selenite, 24.56 ± 0.25 , 25.29 ± 0.98 and 25.60 ± 1.21 for Cadmium chloride and 24.49 ± 0.18 , 25.30 ± 0.99 and 25.73 ± 1.32 for Seleniul l methionine, respectively. Representing the signification decreasing telomerase activity at treated samples compared with the controls ($p \leq 0.05$).

Conclusions: Decreasing in the telomerase activity which was caused by treating with Cadmium chloride, Selenium l methionine and Sodium selenite is in conflict with some previous findings indicating the increasing in the telomerase activity by treating Cadmium.

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