

Cytotoxic effects of *Lagenaria siceraria* hydroalcoholic extract on cancer cell lines in vitro

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Background and Aims: In most cases, drugs used for the treatment of cancer are not effective or have unpleasant side-effects. This has forced scientists to find more effective drugs with less toxicity. *Lagenaria siceraria* is an important medicinal plant in the world and anti-tumoral activity of some *Lagenaria* species has been reported. This study was designed for evaluation of anti-tumoral effect of hydroalcoholic extract isolated from *Lagenaria siceraria* on different cancer cell lines.

Methods: hydroalcoholic extract of *Lagenaria siceraria* was prepared. Cultivated cancer cell lines of liver (HepG2), lung (A549), ovary (SKOV3), and breast (MCF7) & normal cell lines of kidney (LLCPK1), and Hamster ovary (CHO) were incubated with different concentrations of hydroalcoholic extract for 72 hours and cell growth inhibition was determined using MTT assay. Cisplatin considered as positive control. the resulting data has compared with ANOVA and T-Test.

Results: Results of MTT assay showed strong and dose-dependent inhibition of cancer cell growth by hydroalcoholic extract of *Lagenaria siceraria*. This extract caused a significant decrease in proliferation of tested cancer cell lines and had less toxicity on normal cells.

Conclusions: Since the results suggest anti-tumoral activity of *Lagenaria siceraria*, isolation of effective compounds of this extract and evaluation of their effects on tumor-bearing animal models are suggested.

Keywords: *Lagenaria siceraria*; Tumor cell lines; Growth inhibitors; MTT assay