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(57) Abstract :

Herbal medicine, derived from plants, contains natural compounds with therapeutic properties, including anticancer effects. This study evaluated the anticancer activity of Sesbania grandiflora seed extract and Zizypus mauritiana leaf extract, comparing their effects on human cancer cell lines, THP-I (human acute leukemia) and MIA PaCa-2 (pancreatic cancer). Anticancer activity was assessed using the MTT assay at concentrations ranging from 50–300 µg/ml. The results showed that Zizypus mauritiana leaf extract exhibited significant cytotoxicity against pancreatic cancer cells (IC₅₀ = 74 µg/ml) and moderate toxicity against human acute leukemia cells (IC₅₀ = 141 µg/ml). In contrast, Sesbania grandiflora seed extract demonstrated moderate cytotoxicity against pancreatic cancer cells (IC₅₀ = 342 µg/ml) and more effective toxicity against acute leukemia cells (IC₅₀ = 196 µg/ml). Both extracts showed a dose-dependent reduction in cell viability and induced apoptosis in both cancer cell lines. These findings suggest that Zizypus mauritiana and Sesbania grandiflora extracts have significant anticancer potential, with Zizypus mauritiana being more effective against pancreatic cancer and Sesbania grandiflora showing more promise against acute leukemia. This study highlights the potential clinical significance of these herbal extracts in cancer therapy. Keywords: Sesbania grandiflora, Zizypus mauritiana, anticancer activity, human acute leukemia, pancreatic cancer, apoptosis.

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