

Pharmacognosy, Phytochemistry & Natural Products

October 26-28, 2015 Hyderabad, India

Exploring the cytotoxic potential of *Tinospora cordifolia*

Picheswara Rao Polu
Manipal University, India

According to Ayurveda, *Tinospora cordifolia* Miers (Menispermaceae) used as a rejuvenator in folk medicine and it also routinely prescribed to treat fever, diabetes etc. The aim of our study was to evaluate the anticancer activity of ethanolic extract and its fractions of *T. cordifolia* and an attempt was made to standardize the active fraction by using HPTLC as a tool of analysis. Dried stem material was extracted with ethanol (TCE) and partitioned with petroleum ether (TCP), dichloromethane (TCD), butanol (TCB) and water successively (TCA) and screened for cytotoxicity on different cancer cell lines like BT549 and HCT-116 by MTT and SRB assays in vitro. We also detected the β -sitosterol and berberine contents in the active fraction by HPTLC. The results demonstrate that TCD and TCE shown potent cytotoxicity against BT-549 with an IC₅₀ of 36.5 μ g/ml (TCD) and 101.24 μ g/ml (TCE) by SRB assay and 28.35 μ g/ml (TCD) and 108.64 μ g/ml (TCE) by MTT assay whereas, HCT-116 shown an IC₅₀ of 31.3 μ g/ml (TCD) and 86.4 μ g/ml (TCE) by SRB assay and 37.2 μ g/ml (TCD) and 94.64 μ g/ml (TCE) by MTT assay. The other fractions didn't shown significant cytotoxicity in any cell lines. HPTLC results of β -sitosterol and berberine content in various extracts indicated, the TCD to contain the highest concentration of β -sitosterol (0.43% w/w) and berberine (0.98% w/w). Our findings demonstrate that dichloromethane and ethanolic extract of *T. cordifolia* shows promising anticancer activity and has the potential to be developed into a therapeutic option for the treatment of cancer.

Biography

Picheswara Rao Polu has completed his MPharm from Manipal University and he is presently pursuing PhD in Manipal College of Pharmaceutical Sciences, Manipal University. He has 2 years of experience in the Herbal Industry and got the experience in Isolation and purification of Phytoconstituents, QC of Herbal materials, Herbal nutraceuticals and formulation etc. He has 2 publications in the reputed journals.

kapil01pharm@gmail.com

Notes: