OMICS International
conferenceseries.com

Rashmi Singh et al., J Cancer Sci Ther 2015, 7:10
http://dx.doi.org/10.4172/1948-5956.C1.055

Expression of Glutathione (GSH) in liver cancer progression and curative effect of *Indigofera tinctoria* Linn

Rashmi Singh and **Veena Sharma**
Banasthali University, India

Glutathione plays a key role in various cell processes like proliferation, apoptosis, detoxifying reactions in liver, regulation of thio-disulfide status of the cell etc. Oxidative stress severally affects GSH level in various cancers that gave an idea of antioxidant treatment to combat cancer. Major role of GSH in regulation of cancer development and growth was already reported. So, GSH estimation becomes an important marker to estimate the severity of cancer. Large consumption of synthetic medicines also loads cancer severity. Increase in methodical investigation into native prosperity of herbal medication gives enough evidence of medicinal plants as source of drugs. *Indigofera tinctoria*, a traditional plant belongs to the family Fabaceae, is a rich source of antioxidants and possesses number of therapeutic properties. Presently HCC attracts the researcher's mind towards its treatment due to increasing number of cases every year. In this study, we investigated the protective role of *Indigofera tinctoria* during Npyr (N-nitrosopyrrolidine)-CCl4, a carcinogenic nitrosamine-induced HCC in mice. HCC was induced in Albino mice by I.P. dose of Npyr (120mg/kg by weight) followed by weekly subcutaneous dose of CCl4 (3ml/kg by weight) for 50 days (chronic). Hydroethanolic extract of *I. tinctoria* (HEIT) (100mg/kg by weight and 300mg/kg by weight) was given orally in cancer-induced mice for 21 days. Silymarin, a hepatoprotective drug was also administered to cancerous mice at 25 mg/kg by weight to compare the results from plant. After complete post-treatment, GSH level was evaluated and found its significant ($p<0.01$) over expression in NPYR treated group in comparison of control whereas HEIT and Silymarin significantly ($p<0.05$) lowers its expression up to control group. One possible reason behind it is that HEIT may have capability to inhibit GCL, key enzyme of GSH biosynthesis that showed the potency of *I. tinctoria* against HCC.

Biography

Rashmi Singh is pursuing PhD from Banasthali University. Her area of specialization includes toxicology, pharmacology and animal biotechnology. She has attended various national and international conferences and published 6 research articles at international level. She is also the member of an e-journal "Microbioz India"

rashmisingh.ruhella71@gmail.com

Notes: