OP-04

Hepatoprotective and Anti-angiogenic Effects of *Osbeckia octandra* on Experimental Liver Cirrhosis

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Liver cirrhosis increases intrahepatic resistance through fibrosis and vasoconstriction and angiogenesis plays a pivotal role in splanchnic hyperaemia and portosystemic collateral formation. There is today an increasing demand for cheap and safe hepatoprotective alternatives.

Sri Lankan traditional medicine widely uses leaves of *Osbeckia octandra* (Sinh. Heen Bowitiya, HB) to treat liver diseases. The hepatoprotective and anti-angiogenic effects of HB leaves was evaluated against thioacetamide (TAA) induced liver toxicity in Wistar rats. Four groups of rats were given twice a week either TAA (100 mg/kg BW, intra-peritoneal), HB leaf powder (500 mg DM/kg BW, oral gavage), TAA + HB or equal amounts of distilled water orally. Samples were collected for biochemical, histopathological and gene expression assays. Significantly elevated ($p<0.05$) levels of aspartate aminotransferase (AST), alanine aminotransferase (ALT), alkaline phosphatase (AP) and creatinine were seen in TAA administered rats, while those treated with HB leaf powder showed significantly decreased ($p<0.05$) levels. Histological assessments using H&E and *Masson's trichrome staining confirmed these findings*. Moreover, HB treatment markedly ameliorated the expression of collagen 1, TNF- α, TGF-β1, α-SMA and VEGF-R2 genes. Human vascular endothelial cell based angiogenic assay revealed significant anti-angiogenic effects of HB leaves. *O. octandra* leaf powder protects the liver and can be developed as herbal remedy for cirrhosis.

This study was funded by the National Research Council (NRC 15-096)