

**HEPATOTOXIC PROPERTIES OF HERBAL MEDICINES OF  
THE AYURVEDIC PHARMACOPOEIA OF SRI LANKA WITH  
SPECIAL REFERENCE TO PYRROLIZIDINE ALKALOIDS**

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There is a paucity of data on the occurrence of the hepatotoxic and hepatocarcinogenic pyrrolizidine alkaloids in medicinal plants and there is no data on the hepatotoxic properties of herbal medicines which are used in the traditional pharmacopoeias of Sri Lanka and other Asian and African countries.

In view of the extensive consumption of these herbals and the occurrence of chronic liver disease including primary liver cancer in these countries, we have chemically screened fifty medicinal plants and have detected pyrrolizidine alkaloids in three, viz., *Crotolaria verrucosa*, *Holarrhena antidysenterica* and *Cassia auriculata*. Feeding trials in rats

with materials from these three species produced liver lesions—disruption of the centrilobular veins, congestion and haemorrhage in the centrilobular regions, centrilobular or focal hepatocellular necrosis and histopathology in the lungs and kidneys which were compatible with the action of pyrrolizidine alkaloids.

The presence of alkaloids in *Cassia auriculata* has not been previously reported nor has the presence of pyrrolizidine alkaloids in *Holarrhena antidysenterica*.

It is suggested that the consumption of herbal medicines which contain pyrrolizidine alkaloids could contribute to the high incidence of chronic liver disease—especially cryptogenic cirrhosis—and primary liver cancer in Asian and African countries. These agents would be of particular significance in those countries where Hepatitis B virus and mycotoxins are of relatively lower incidence.

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