Summary and Conclusion

Gum arabic has recently attracted attention because of its physiologic activity and its role as antioxidant. This study was designed to compare the AG with the established and well known drug, silymarin regarding to their roles in protecting the liver in case of drug toxicity as by paracetamol, through measuring their effect on liver enzymes SGOT, SGPT, and ALP and on oxidative activity as evdenced by the level of MDA. This research also measure the changes in portal preassure in different groups . This work was done also to study AG effects on isolated perfused rabbit's jejunum in vitro.

As regards the in vivo study, rats were used and divided into four equal groups each was 6 rats : control(group I) , acetaminophen adminsteredgroup (group II) (each rat received a single intra-peritoneal injection of acetaminophen 500 mg / kg body weight) , Arabic gum treated group (group III) (each rat received 7.6 mg / kg dissolved in drinking water for 5 days by oral route),and Silymarin treated group (group IV) (each rat received 200 mg / kg body orally for 5 days by oral route) and Arabic gum and Silymarin treated group (group V) (each rat received 7.6 mg / kg dissolved in drinking water and 200 mg / kg body weigh orally for 5 days).

At the end of the study, the rats were subjected to measuring liver enzymes SGOT, SGPT, ALP and MDA levels in blood also the portal preassure was measured and histopathological examination to liver cut sections was done.

It was found that AG and Silymarin produced a significant reduction in liver enzymes SGOT, SGPT, ALP and MDA and in portal hypertention caused by acetaminophen adminstration. Both AG and Silymarin produced significant reduction of hydropic degeneration, hepatic necrosis, central vein congestion and portal tract inflammation in liver sections.

AG was significantly more effective than Silymarin in reducing the liver enzymes.

Adding AG to Silymarin was significantly more effective than Silymarin alone in reducing the liver enzymes except ALP which was not significantly affected

Adding AG to Silymarin was significantly effective than Silymarin alone in reducing the oxidative activity

Pretreatment with AG and Silymarin before giving them a single intra-peritoneal injection of acetaminophen caused significant reduction in portal pressure.

Adding AG to Silymarin was significantly more effective than Silymarin alone in reducing the portal pressure.

In conclusion, oral administration of Arabic gum protected rats from acetaminophen - induced hepatotoxicity. The protection is not through change in metabolism of acetaminophen but may be through reduction of

oxidative stress. These observations suggest that arabic gum may find clinical application in a variety of conditions where cellular damage is consequence of oxidative stress.

From the results of the present study, both AG and silymarin may have a role in prophylaxis and management of paracetamol hepatotoxicity also AG is more effective than Silymarin in liver protection also it can be used alon in hepatic protection or added to silymarin to icrease its effect