**INTRODUCTION**

The liver is the major detoxification organ in the body, as the primary site of Phase I and Phase II detoxification enzymes. Phase I includes oxidation, reduction, and hydrolysis reactions, while Phase II includes conjugation reactions. Phase I reactions can produce reactive intermediates, which can be detoxified by Phase II reactions. Vitamin C (ascorbate) is a powerful antioxidant that can protect against oxidative damage by scavenging free radicals and reactive oxygen species. It is also a potent reductant that can reduce toxic epoxides and Michael adducts, thereby protecting cells from damage. Vitamin C is synthesized in the liver and kidneys, but can also be obtained from dietary sources. It is a water-soluble vitamin that is rapidly excreted in the urine, and its serum levels are tightly regulated by the kidneys. The current study was designed to investigate the effects of Hepasil DTX™, a dietary supplement containing vitamins C and E, on glutathione (GSH) and vitamin C levels in chronic liver disease patients.

**RESULTS**

- Hepasil DTX™ acutely, chronically, and acutely-on-chronically increased plasma total GSH levels (data not shown).
- Hepasil DTX™ increased plasma GSH 2 hours following the first treatment and significantly increased plasma GSH 8 hours after supplementation (p < 0.05; data not shown).
- A chronic 18% increase in plasma GSH was observed, but did not reach statistical significance (data not shown).

**DISCUSSION AND CONCLUSIONS**

The results of this study suggest that Hepasil DTX™ may be a promising treatment for chronic liver disease patients. The observed increases in both GSH and vitamin C levels may be beneficial for improving antioxidant capacity and protecting against oxidative damage. Further studies are needed to evaluate the long-term effects of Hepasil DTX™ on liver function and disease progression.