

Dalteparin sodium protects the liver

Dalteparin sodium inhibits immune-mediated liver damage in mice, report researchers from Israel. They suggest that glycosaminoglycans may have therapeutic utility beyond their anticoagulant activity.

In this study, BALB/c mice received heparin, heparan sulfate, or dalteparin sodium ['Fragmin'], and were then inoculated with concanavalin A 10 mg/kg to induce liver inflammation with tissue necrosis. Untreated mice served as controls.

Six hours after concanavalin A treatment, mice pre-treated with intraperitoneal dalteparin sodium 5 µg/day for 5 days showed mean serum ALT levels approximately 80% lower than controls. Pretreatment with heparin reduced ALT levels by approximately 35%, while pretreatment with heparan sulfate had no effect, compared with controls. While the livers of control mice showed '*inflammatory infiltration around the central veins and large areas of necrosis within the liver lobules*', no such damage was apparent in the livers of dalteparin sodium-treated mice, say the researchers.

The researchers speculate that the protective mechanism may involve the 4-fold greater increase in the serum level of the anti-inflammatory cytokine interleukin-10 that was seen in protected mice after concanavalin A treatment, compared with controls. This increase '*probably*' modulated hepatotoxicity by producing the significant decrease in TNF-α level that was also observed, say the researchers.

Hershkoviz R, Bruck R, Aeed H, Shirin H, Halpern Z, et al. Treatment of concanavalin A-induced hepatitis in mice with low molecular weight heparin. *Journal of Hepatology* 31: 834-840, Nov 1999

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