Elevated serum soluble E-selectin is associated with poor outcome and correlated with serum ALT in biliary atresia

Background and Aim: Biliary atresia (BA) is a serious liver disease. Our objective was to investigate the possible role of serum E-selectin in BA.

Methods: During annual follow-up in 2005, serum levels of soluble E-selectin were determined using ELISA method from 53 post-operative BA patients and 10 healthy children. The patients were categorized into two groups according to their jaundice status. The comparisons of demographic data and serum E-selectin between jaundice-free patients and jaundice patients were performed. Correlation analysis of serum E-selectin with serum ALT and serum GGT was carried out. Data are expressed as mean and SD in terms of ng/mL.

Results: Serum E-selectin of BA patients was higher than the controls (114.1±44.0 vs. 88.7±22.2, \( p=0.01 \)). Further subgroup analysis showed that there was an increase in serum E-selectin levels of BA patients with jaundice (n=21) compared to those without jaundice (n=32) (129.7±48.6 vs. 103.9±38.1, \( p=0.035 \)). Also, serum E-selectin was positively correlated with serum ALT, a marker for liver injury (\( R^2=0.355, p=0.009 \)), but not with serum GGT (\( R^2=0.223, p=0.12 \)).

Conclusion: Serum E-selectin was elevated in BA patients. The elevated serum E-selectin was also associated with poor outcome. Additionally, there was a positive correlation between serum E-selectin and serum ALT. These suggest that E-selectin plays a role in the pathophysiology of liver injury in post-operative BA.