5'-Nucleotidase Test

- Tests for 5'-nucleotidase levels, which can be elevated in cholestatic liver diseases.

5′-Nucleotidase (5′NT) enzyme catalyzes the hydrolyses of nucleotides by removing 5′-phospahte of the pentose ring. It is present in the liver, intestine, brain, heart, pancreas, and blood vessels. In the liver, it is associated with canalicular and sinusoidal plasma membranes. Despite its distribution in other tissue, it is generally elevated in cholestatic hepatobiliary disease and is not elevated in bone disease. Thus, its measurement is helpful when investigating an isolated increase in alkaline phosphatase. which is most commonly measured by assays of its activity. 5′-NT is found in the liver, intestine, brain, heart, blood vessels, and pancreas. In the liver, it is found bound to the canalicular and sinusoidal membrane of hepatocytes. Its activity parallels that of AP, which is likely a reflection of their similar location in the hepatocyte. Most studies show that 5′-NT and AP have equal clinical use in the detection of hepatobiliary disease. Like GGT, its clinical value lies in its ability to determine the origin of elevated serum AP levels, because its elevation in this setting strongly suggests a hepatic origin.[1]

References

1. Daniel S. Pratt, Chapter 73 - Liver Chemistry and Function Tests, Mark Feldman, Lawrence S. Friedman, Lawrence J. Brandt, Sleisenger and Fordtran's Gastrointestinal and Liver Disease (Ninth Edition), W.B. Saunders, 2010; Pages 1227-1237.e2, ISBN 9781416061892; https://doi.org/10.1016/B978-1-4160-6189-2.00073-1.