

CHANGES IN THE ACTIVITY OF SOME SERUM ENZYMES IN CHRONIC LIVER DISEASES

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In fatty liver (FL) a moderate increase in GGT, AP, LAP activity is established and especially in cases with alcoholic etiology of FL the activity of GGT is significantly higher. The patients with chronic persistent hepatitis (CPH) have normal or slightly increased activity of GGT, AP, LAP as well as serum transaminase activity, particularly ALAT. The increased GGT activity is an early and often the only pathological index. A significantly higher activity of all the enzymes is established in patients with chronic active hepatitis (CAH) and this activity is higher than that of patients with already formed liver cirrhosis (LC). As a rule, in patients with LC GGT activity is higher especially in chronic alcoholics where it is higher than that in patients with chronic alcoholic hepatitis. Our study includes 65 patients with FL, 83 with CPH, 53 with CAN, 349 with LC and 45 healthy controls. About 90% of the patients are chronic alcoholics. The activity of serum enzymes is determined by routine clinical laboratory methods. The diagnosis is confirmed by morphological studies and/or with laparoscopy. The highest activity of all the measured enzymes was found in the patients with CAH in comparison with the other groups (table 1) and the differences are statistically significant for serum transaminases and insignificant for GGT and AP. This is connected with morphologically established activity of the pathological process in these patients and our results comply with the experience of other authors, too.

Table 1. Activity of some serum enzymes (U/l) in patients with FL, CPH, CAH, LC and healthy controls

Disease	ASAT \bar{x}	ALAT \bar{x}	GGT \bar{x}	AP \bar{x}
FL	45	50	120	143
CPH	93	122	302	193
CAH	258	402	301	265
LC	110	73	228	257
Controls	10	10	15	32

The statistically significant higher ALAT activity in comparison with that of ASAT in patients with CAH is also of importance. The increased activity of serum enzymes resembles that of acute viral and toxic hepatitis and leads to a differential diagnosis predominantly with them and less with chronic liver diseases - FL, CPH and even an already formed LC. In contrast to many other authors we find ASAT/ALAT index greater than 1 only in patients with LC and in the other patients it is less than 1. Our results are similar as far as the GGT/AP index is concerned. In comparison with healthy controls, a statistically significant increase of investigated enzyme activity was established in patients with FL and CPH. The change in GGT activity is considerably greater and it appears earlier and in almost all patients. Many other authors report similar data. A statistically significant higher activity of the investigated enzymes was found in the patients with LC in comparison with the healthy controls. The most significant and constant is the increase of GGT activity and this together with the ASAT/ALAT index more than 1 refers to an alcoholic etiology of the disease. In patients with already formed LC enzyme activity is lower than in those with CAH, initial or developing LC. Our observations comply with the data of other authors. The lowest enzyme activity was found in the patients with FL as compared with those with CPH, CAH and LC and all the differences were statistically significant. When comparing the enzyme activity in patients with CPH, CAH, and LC the highest activity was found in those with CAH. The greatest difference is in transaminase activity. This is to confirm the assumption that the activity of the pathologic process in the liver and the attendant cytolysis induce the activity of cytolytic enzymes - ASAT and ALAT. The difference between the serum transaminases in patients with CAH and LC is statistically significant. The activity is higher in patients with CAH.

There is an increase in enzyme activity in chronic liver diseases and it correlates with the severity and activity of the pathologic process in the liver. In patients with CAH the enzyme activity is the highest and comes close to that in acute viral and toxic hepatitis. The increase in ASAT and especially ALAT activity is more significant while that of GGT and AP is more moderate but very frequent. The evaluation of serum enzyme activity may have a great significance for the diagnosis and prognosis of chronic liver diseases.