

## The clinical characteristics of diabetic ketoacidosis with pancreatic enzyme elevations

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**Objective:** Hyperamylasemia or hyperlipasemia is not rare in patients with diabetic ketoacidosis (DKA). However, the significance and mechanism of these enzyme abnormalities in DKA are poorly understood. Therefore, we studied the significance of pancreatic enzyme elevations in patients with DKA. **Methods:** We retrospectively collected 68 patients with DKA who were done pancreatic enzyme tests at admission. We analyzed age, sex, pH, anion gap, serum HCO<sub>3</sub><sup>-</sup>, times to resolve DKA and insulin amounts. **Results:** When compared between DKA patients with normal pancreatic enzyme (n=52, 27 men, 49.46 ± 22.18 years) and DKA patients with hyperamylasemia or hyperlipasemia (n=16, 15 men, 58.92 ± 16.29), there were statistical differences in pH (7.24 ± 0.18 vs. 7.12 ± 0.17, p = 0.045), anion gap (30.97 ± 9.41 mEq/L vs. 38.45 ± 6.33 mEq/L, p = 0.018) and , serum HCO<sub>3</sub><sup>-</sup> (11.13 ± 6.77 mEq/L vs. 6.50 ± 4.33 mEq/L, p = 0.039). However, there were no statistical differences in times and insulin amounts to resolve DKA. DKA patients with threefold or greater elevation in serum amylase or lipase (n=6, 6 men, 53.00 ± 10.89 years), which is one of criteria to diagnose acute pancreatitis, showed no statistical difference of pH, anion gap, serum HCO<sub>3</sub><sup>-</sup>, times to resolve DKA and insulin amounts compared to DKA patients having mild elevations of pancreatic enzymes. **Conclusion:** These results suggest that DKA patients with hyperamylasemia or hyperlipasemia would be likely to have more severe acidosis.