Relationship between changes of amylase and lipase and pancreas injury in critically ill children

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Objective: To explore the relationship between elevated pancreatic enzymes and pancreatic damage.

Method: The cases of 17 Children's hospitals were divided into three groups: The control group, mildly elevated group and highly elevated group. The risk factors of elevated amylase or lipase are analyzed by logistic regression analysis.

Result: The rates of abnormal pancreatic ultrasound in control group, mildly elevated group and highly elevated group were 0.9%, 14.1% and 20.8% (χ²=52.925, P=0.000); the median of BE, calcium, WBC, PCT of highly elevated group exceeded the upper limit of normal. The occurrence rates of ALT, AST, urea nitrogen, creatinine, LDH, CKMB exceeded the upper limit of normal were significantly higher than mildly elevated group and the control group (P<0.05). The differences of myocardial damage, liver damage, ARDS, intracranial hypertension syndrome, stress ulcer, coagulation disorders, circulatory dysfunction and organ failure among three group were statistically significant (P<0.05). The rates of mechanical ventilation, sepsis severity and mortality were increased with elevated pancreatic enzymes. The median of survival table of children with normal pancreas was 75 days. The median of survival table of children with elevated amylase or lipase was 24 days. The risk factors of elevated amylase or lipase were age, convulsions, consciousness, BE, PCT, calcium, mechanical ventilation, sepsis severity and severity of organ failure.

Conclusion: The elevated pancreatic enzymes were accompanied with the progression of critical illness. Pancreatic enzymes elevated probably due to pancreatic damage, which positively correlated to severity of the disease and the prognosis.

Biography
Xiao Zhenghui has completed her PhD from the Xiangya Medical College, Central South University. She is currently the Director of Emergency Center of Hunan Children's Hospital. She has published more than 30 papers in reputed journals in China and has been serving as an Editorial Board Member of repute.

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