Relationship between beta cell dysfunction and severity of disease in critically ill children: A prospective observational study

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Aim: To analyze the relationship between beta cell dysfunction and severity of disease in critically ill children.

Methods: 1146 critically ill children admitted in PICU of Hunan Children’s Hospital from November 2011 to August 2013 were studied which were divided into group-1 (HOMA-β≥100%, n=339), group-2 (80%≤HOMA-β≤100%, n=71), group-3 (80%≤HOMA-β≤40%, n=293), group-4 (HOMA-β<40%, n=443).

Results: Incidence of HOMA-β<100% was 70.41%. C-peptide and insulin level showed a falling trend with worsening HOMA-β (P<0.01), C peptide and insulin was positively related with HOMA-beta (rs1=0.443, rs2=0.443, P<0.01), positive correlation between insulin and C peptide (rs3=0.601, P<0.01). The WBC level did not differ in four groups (P>0.05); the difference of CRP and PCT levels among groups were significant (P<0.01). The worst SOFA score in group-1, 2, 3 and 4 was 1.55±1.85, 1.71±1.93, 1.92±1.63 and 2.18±1.77 (P<0.05). Incidence of septic shock in Group-4 was highest (7.22%), incidence of MODS in group-2 was highest (32.39%), mortality in group-1, 2, 3, 4 was 7.08%, 12.67%, 5.12% and 12.67%. Incidence of septic shock, MODS, mechanical ventilation and mortality in four groups had Statistical significance (P<0.05).

Conclusions: Beta cell dysfunction existed in PICU, which to some extent reflects the severity of disease in critically ill children.

Biography

Lu Xiulan has completed her MD from Xiangya Medical College, Central South University. She is currently the Director of Emergency Center of Hunan Children’s Hospital. She has published more than 20 papers in reputed journals in China and has been serving as an Editorial Board Member of repute.

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