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# TDX、IMX による血中ジゴキシン濃度測定における問題点.

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Two automated immunoassays for digoxin in serum were evaluated-widely used TDX‐digoxin II (TDX, fluorescence polarization immunoassay) and recently developed IMX digoxin (IMX, microparticle enzyme immunoassay) which is not necessary to pretreat. The result of comparative between the values of TDX and IMX assays from 169 digoxin-treated patient samples showed a low equivalence (r=0.808). Although the data from patients with hepatic (GOT and GPT≧100 IU/L, n=7) or renal deficient (Scr≧2.5 mg/dL, n=18) were excluded to investigate the influence of digoxin-like immunoreactive substances, the correlation was not change (r=0.806,0.789) between these two methods. When the data from patients treated with potassium canrenoate and hyperbilirubinemia (serum total-Bil≧3.0 mg/dL) were excluded, the correlation was remarkably improved (r=0.946, n=154) and the slope approximated unity. We also studied the influence of bilirubin *in vitro*, however no interference was found at the range of 0-30 mg/dL of bilirubin. Therefore some relational factors of the hyperbilirubinemia might induce the serum digoxin level increase in the TDX assay system.

Cross-reactivity of potassium canrenoate, digtoxin, deslanoside, spironolactone, furosemide, methylprednisolone, prednisolone, and prednisolone succinate were examined using blank plasma. In the TDX assay method, potassium canrenoate, digtoxin and deslanoside exhibited marked concentration-dependent cross-reactivity, especially potassium canrenoate showed remarkable concentration-dependent cross-reactivity in the TDX assay. Whereas in the IMX method, digtoxin and deslano-

side only showed but not potassium canrenoate. Then we added potassium canrenoate with digoxin spiked control serum (10, 20, 40 μg/mL) and assayed by two methods. These samples showed lower values than digoxin spiked control serum concentration dependently in the IMX method.

From these results, we concluded that it is necessary to be careful for digoxin measurements of patients treated with potassium canrenoate.