

**Abstract Type : Poster**

**Abstract Submission No. : PO-1350**

## **Peritoneal Dialysis Does not Increase a Risk of Acute Cholecystitis Than Hemodialysis: a Nationwide Population Based Cohort Study**

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### **Objectives:**

Patients with peritoneal dialysis (PD) show higher incidence of gastrointestinal disease than general population. However, it is still not unveiled that acute cholecystitis and cholecystectomy incidences are higher or not in the patients with PD comparing with hemodialysis (HD). The aim of study is to know the incidence and risk of acute cholecystitis which needed cholecystectomy in the patients on PD, and to investigate clinical characteristics and difference between PD and HD.

### **Methods:**

We accessed the Korean National Health Insurance Database and included all patients who commenced dialysis between 2004 and 2013 from about 50,000,000 Korean population and selected the same number of control via propensity score matching. The incidences of cholecystectomy (CCT) due to acute cholecystitis in the dialysis and control were calculated, and multivariable Cox proportional hazards model was used for the risk of CCT, also compared risks between PD and HD.

### **Results:**

Among the 71,097 incident dialysis patients and matched control, there were 6,454 (9.1%) and 749 (1.1%) CCTs were noted in the dialysis and control. The independent risk factors were old age, diabetes, peripheral vascular disease, atrial fibrillation, heart failure, chronic pulmonary disease, neoplasm, and peptic ulcer disease ( $p < 0.05$ ). Mesenteric ischemia induced mortality rate between PD and HD showed no significant difference. Patients on dialysis were associated with a significantly higher risk of cholecystectomy due to acute cholecystitis comparing with control (IRR, 11.85), and dialysis cohort had an independently increased risk of cholecystectomy (adjusted HR, 13.54 [12.54-14.62]). However, there were no significant difference of CCT incidence rate by dialysis modality.

### **Conclusions:**

Although a risk of cholecystitis in the dialysis was remarkably higher than general population, PD did not increase the risk of cholecystitis comparing with HD. We concluded that PD could be a reliable modality without further increment of cholecystitis than HD.