

당뇨환자의 예후에 영향을 주는 임상진료행태

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The Pattern of Clinical Practice Affects on the Outcome in Diabetes Mellitus (DM)

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Background : The diabetic nephropathy is the leading cause of ESRD. Many guidelines are published for DM and CKD but they are not always followed by clinicians. We analyzed the adherence to guidelines and patients' outcome.

Methods : We searched all patients with DM who visited to SNUBH in 2004, gathered data from electronic medical record, and checked whether patients were tested for recommended laboratory items, treated with recommended medicines, and controlled for blood pressure, HbA1c, and dyslipidemia, as in guidelines. We defined the outcome as an incidence of ESRD or death during follow-up period.

Results : Among 5,623 DM patients, there were 2,915 males (51.8%) and the mean age was 65.8 (15.8) years. Physicians tested HbA1c in 4,524 patients (80.5%), total cholesterol, 83.4%, triglyceride, 67.6%, LDL-cholesterol, 44.5%, serum creatinine, 79.2%, urine protein by dipstick, 66.9%, and UACR, 31.6%, during whole year of 2004, respectively. The rate of appropriate control of blood pressure (<130/80 mmHg) was 27.3%, HbA1c (<7%); 45.4%, LDL-cholesterol (<100 mg/dL); 49.1%, triglyceride (<150 mg/dL); 60.1%. The ACEI or ARB was prescribed in 63.9%, statin in 31.1%, EPO in 66.2%, and antiplatelet agent in 52.5% among a recommended group of patients as in guidelines, respectively. During follow-up period, 602 patients were dead and 93 patients were progressed to ESRD. Except 37 ESRD patients at 2004, 674 patients reached to the composite outcome (12.1%/5,567 patients). The univariate risk factors to outcome were gender, level of cholesterol, HbA1c, presence of cholesterol data, HbA1c data, and renal functional data (UACR or Cr), and use of ACEI or ARB and antiplatelet agent. With Cox's hazard proportional model, appropriate control of cholesterol (<200 mg/dL) reduced outcome risk to 81.5% (68.4-97.1%), HbA1c level less than 7% reduced the risk to 80.9% (67.4-97.1%), usage of antiplatelet agent reduced the risk to 83.1% (69.5-99.5%), and presence both of renal functional data reduced the risk to 71.7% (59.0-87.1%). The patients with the data of renal function had taken the medicine of ACEI, ARB, statin, and antiplatelet agents more frequently.

Conclusion : Testing HbA1c and renal function in DM patients was related to better prognosis, which reflects that close monitoring and appropriate use of recommended medicine, such as, ACEI, ARB, and antiplatelet agents are important to improve the prognosis.

Key Words : 당뇨병, 당화혈색소, 신기능

Diabetes mellitus, HbA1c, Renal function