長庚大學醫學院臨床醫學研究所
畢業生研究成果

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畢業論文題目（中文）：**只有短期使用降尿酸藥物無法減少洗腎及死亡率**

畢業論文題目（英文）： **Short-term adherence of anti-hyperuricemic medication will not improve end-stage renal disease and mortality**

OBJECTIVE:
This study investigated the association between the compliance of anti-hyperuricemia medications and progression of end-stage renal disease (ESRD) and all-cause mortality.
METHODS:
We identified 53,917 patients with incident gout from 2002 to 2012. We followed up these patients until Dec 31, 2015. The primary data source was the National Health Insurance database of Taiwan. Proportion of days covered (PDC) was used to measure medication adherence. Patients with PDC≧80% more than two years defined adherence to ULA. Cox proportional hazards model was used to estimate difference and hazard ratios (HRs) for end-stage renal kidney disease and all-cause mortality.
RESULTS:
A total of 53,917 patients were included (figure 1). The number of patients with anti-hyperuricemia medications PDC≧80% more than 2 years was 2,371. After 1:4 propensity score match with age, sex and comorbidities, the group of PDC <80% included 9,484 matched subjects (Table 1). The mean follow-up duration is 12.30±2.45 years in PDC≧80% group and 9.52±3.46 years in PDC <80%. During follow-up, ESRD was detected in 1,349 patients (306 with PDC≧80% and 1,043 with PDC <80%) and all-cause mortality was found in 3,430 patients (842 with PDC≧80% and 2,588 with PDC <80%). This matching showed no difference in ESRD (HR, 0.91; 95% CI, 0.80-1.03) and all-cause mortality (HR, 0.96; 95% CI, 0.88-1.03) (Table 2).
CONCLUSION:
Gout patients with/without two years adherence of anti-hyperuricemia medications does not have an impact on ESRD and all-cause mortality.

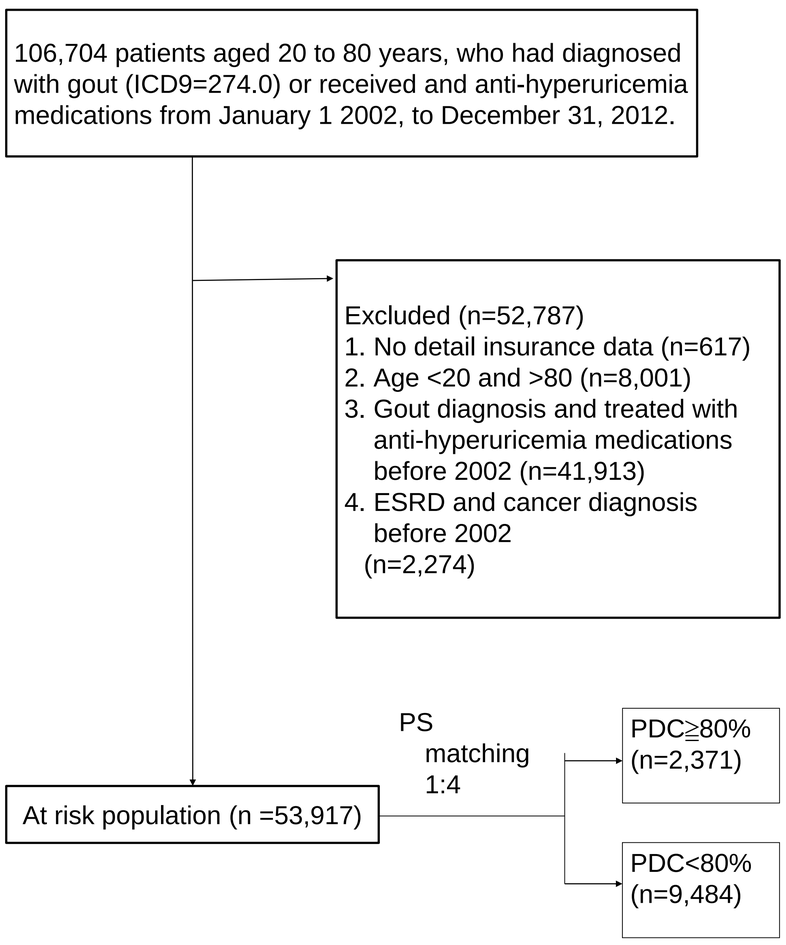

Figure 1. Flow chart for study design

Table 1. Baseline characteristic of adherence and non-adherence of anti-hyperuricemia medication among patients with gout in matched and unmatched cohort

	Unmatched Cohort			Propensity-score Matched Cohort		
Variable	PDC≧80% N=2371人	PDC<80% N=51546人	P	PDC≧80% N=2371人	PDC<80% N=9484人	P
Age (years) (mean ± standard deviation)	59.96±13.44	51.52±15.61	<0.0001	59.96±13.44	60.23±13.41	0.3755
follow-up duration (years) (mean ± standard deviation)				12.30±2.45	9.52±3.46	
Gender			0.3098			0.2855
Male	1929(81.36%)	42358(82.18%)		1929(81.36%)	7624(80.39%)	
Female	442(18.64%)	9188(17.82%)		442(18.64%)	1860(19.61%)	
Comorbidities						
Hypertension	406(17.12%)	3695(7.17%)	1.71E-71	406(17.12%)	1571(16.56%)	0.5138
Diabetes Mellitus	276(11.64%)	2367(4.59%)	1.78E-54	276(11.64%)	1080(11.39%)	0.7291
Ischemic heart disease	109(4.60%)	988(1.92%)	1.58E-19	109(4.60%)	444(4.68%)	0.8617
Cerebrovascular disease	113(4.77%)	891(1.73%)	1.05E-26	113(4.77%)	481(5.07%)	0.5416
Peripheral arterial disease	20(0.84%)	170(0.33%)	3.67E-05	20(0.84%)	74(0.78%)	0.7561
Congestive heart failure	81(3.42%)	606(1.18%)	1.88E-21	81(3.42%)	286(3.02%)	0.3137
Anemia	182(7.68%)	1559(3.02%)	5.22E-36	182(7.68%)	769(8.11%)	0.4882
CKD	266(11.22%)	1978(3.84%)	2.61E-69	266(11.22%)	963(10.15%)	0.1281

PDC= Proportion of days covered, CKD=Chronic kidney disease

Table 2. hazard ratio of ESRD and all-cause mortality in patients with gout

OUTCOME	HAZARD RATIO (95% CONFIDENCE INTERVAL)
ESRD	
ULA ADHERENCE LEVEL	
PDC<80%	Reference
PDC≧80%	0.91 (0.80-1.03)
ALL-CAUSE MORTALITY	
ULA ADHERENCE LEVEL	
PDC<80%	Reference
PDC≧80%	0.96 (0.88-1.03)

ESRD=End stage renal disease, PDC= proportion of days covered.