

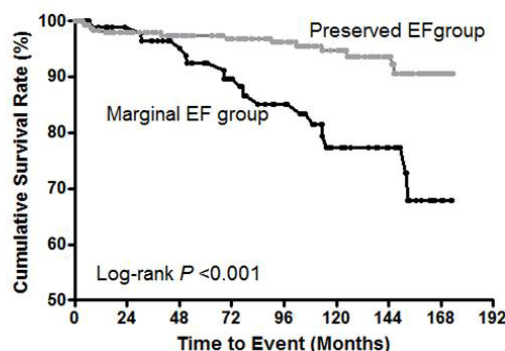
## Marginal systolic function predict long-term mortality in Korean Buddhist priests

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**Background/Aims:** Buddhist priests lead a unique lifestyle, practicing asceticism, with a vegetarian diet. Such behavior may have an influence on cardiovascular parameters and mortality. Here, we aimed to analyze the characteristics of echocardiographic parameters and all-cause mortality among Korean Buddhist priests. **Methods:** This study is a single-center, retrospective study. Among the 3,867 Buddhist priests who visited Dongguk University Gyeongju Hospital between January 2000 and February 2016, 376 subjects underwent echocardiography and mortality data were available. All-cause mortality data were extracted from Statistics Korea. We performed the analysis on 357 subjects with cardiac systolic function with ejection fraction (EF)  $\geq 50\%$ . We categorized two groups with EF (marginal EF group, EF 50-59% vs. preserved EF group, EF  $\geq 60\%$ ). Decreased renal function was defined estimated glomerular filtration rate  $< 60$  ml/min/1.73m<sup>2</sup>. **Results:** The mean age was  $53.6 \pm 11.4$  years, and 56.6% were male. Mean EF values were  $57 \pm 2\%$  in marginal EF group and  $64 \pm 3\%$  in preserved EF group (P  $< 0.001$ ). Hypertension was more prevalent in marginal EF group (P=0.042). There were no significant differences of left ventricular mass index (P=0.832) and left atrial volume index (P=0.186) between two groups. During the follow-up period for  $93.8 \pm 55.8$  months, 30 (8.4%) [17 (17.3%) subjects in marginal EF group vs. 13 (5.0%) subjects in preserved EF group] subjects died. Subjects in marginal EF group showed a significantly higher mortality compared with preserved EF group by Kaplan-Meier survival analysis (P  $< 0.001$ ). In the Cox proportional hazards model with adjustment, marginal EF group (adjusted HR 2.56, 95% CI 1.17-5.60), older age (adjusted HR 1.06, 95% CI 1.03-1.10), and decreased renal function (adjusted HR 3.25, 95% CI 1.38-7.64) were independently associated with increased all-cause mortality. **Conclusions:** Buddhist priests with marginal systolic function showed a significantly higher mortality compared with preserved systolic function Buddhist priests. Therefore, Buddhist priests with marginal systolic function need meticulous management.

Figure 1.

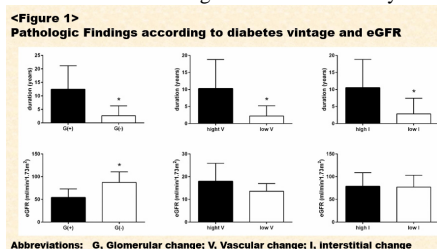


## The clinicopathologic associations in Human diabetic kidney disease

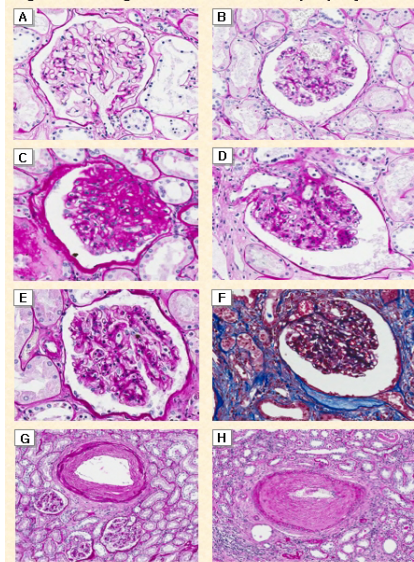
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**Background/Aims:** Although diabetic nephropathy(DN) is the most common cause of CKD, the natural course is so diverse and it is hard to predict. This study was conducted to determine the clinical relevance to renal pathologic changes in diabetes mellitus using remnant kidney tissue stored after total nephrectomy in patients with renal tumor. **Methods:** We checked the presence of DM in patients with total nephrectomy from 2010 to 2017. A total of 17 patients were enrolled for analysis. Data were obtained from our institute. Periodic acid-Schiff and methenamine silver stain was conducted for the analysis of renal tissue according to pathologic classification of DN(Renal Pathology Society Classification, 2010). we expressed glomerular classification as "unclassified (UC)" if no glomerular change is present. More than score 3 in interstitial lesion (arteriolar hyalinosis + arteriosclerosis) and vascular lesion (IFTA + interstitial inflammation) was classified as severe lesion. **Results:** The median age and DM vintage were 65(56-76)years old and 2 years. 76.4%(13/17) of enrolled patients was male. HbA1c was 7.4(6.9-8.0)%. Glomerular change was noted in five patients and severe interstitial and vascular changes (summed score  $> 3$ ) were six and six, respectively. DM vintage is longer in group with glomerular change, severe vascular or interstitial change compared with its counterpart. eGFR is lower in group with glomerular change compared with its counterpart, not in group with vascular or interstitial change (figure 1). In terms of early renal functional changes in DM, 75%(3/4) of patients have severe arteriosclerosis and 25%(1/4) have interstitial fibrosis more than score 2 in group with eGFR  $\geq 60$  ml/min/1.73m<sup>2</sup> and no proteinuria. There is no glomerular change in these patients. Patients with proteinuria have glomerular, interstitial or vascular changes. We cannot find any association between proteinuria and pathologic changes. **Conclusions:** DN has a wide variety of clinical and pathologic presentation, so, it is difficult to predict the outcome or prognosis. Interstitial or vascular changes may be dominant rather than glomerular change in clinically early period of DN. Further study is needed to elucidate the course of DN.



<Figure 2> Pathological manifestation of DM nephropathy



-Glomerular change (A-D) A: Not mesangial expansion(UC) B: Mesangial expansion does not exceed capillary lumen (IIB) C: Mesangial expansion exceed capillary lumen (IIB) D: nodular sclerosis (Kimmelstiel-Wilson lesion, III)  
-Interstitial change (E-F) E: Interstitial expansion with arteriolar hyalinosis F: interstitial fibrosis with tubular atrophy  
-Vascular change (G-H) G: Arteriosclerosis score 1, H: Arteriosclerosis score 2 with IFTA