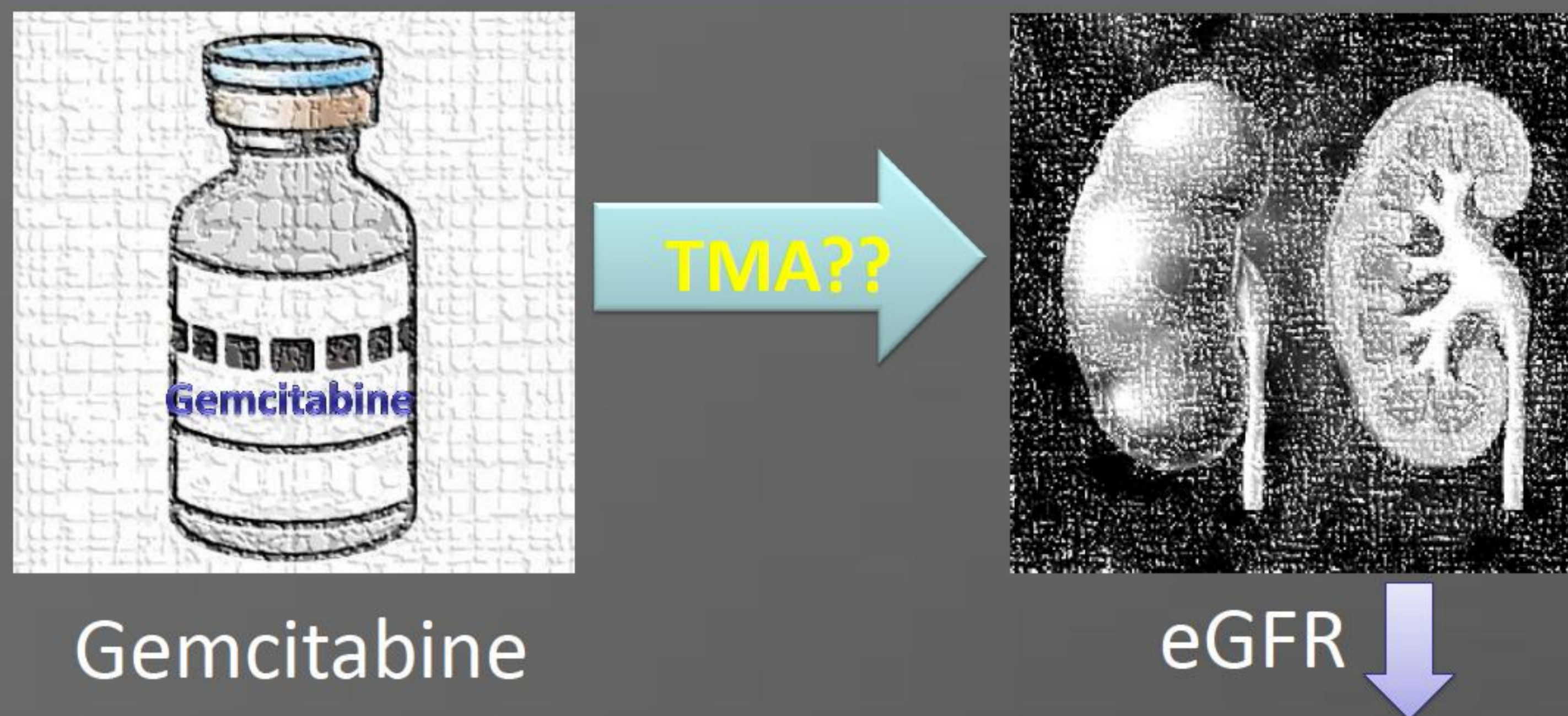


# A MILD DECREASE IN RENAL FUNCTION WITHOUT EVIDENCE OF THROMBOTIC MICROANGIOPATHY IS COMMON IN CANCER PATIENTS RECEIVING SHORT-TERM GEMCITABINE TREATMENT



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## BACKGROUNDS



## OBJECTIVES

- How often is renal dysfunction occurring in patients who receiving GEM?
- What are related factors for new-onset renal dysfunction in patients who treated with GEM??

## SUBJECTS AND METHODS

### Subjects:

• Longitudinal study: follow-up period ≥ 6 months.  
 Included 101 pancreatic, 19 bile duct, and 3 biliary cancer patients.

### Inclusion criteria

1. No exposure of any anti-cancer drugs.
2. Only single-agent therapy with Gem.
3. Normal kidney function: eGFR ≥ 60 ml/min/1.73m<sup>2</sup> at baseline.

### Methods:

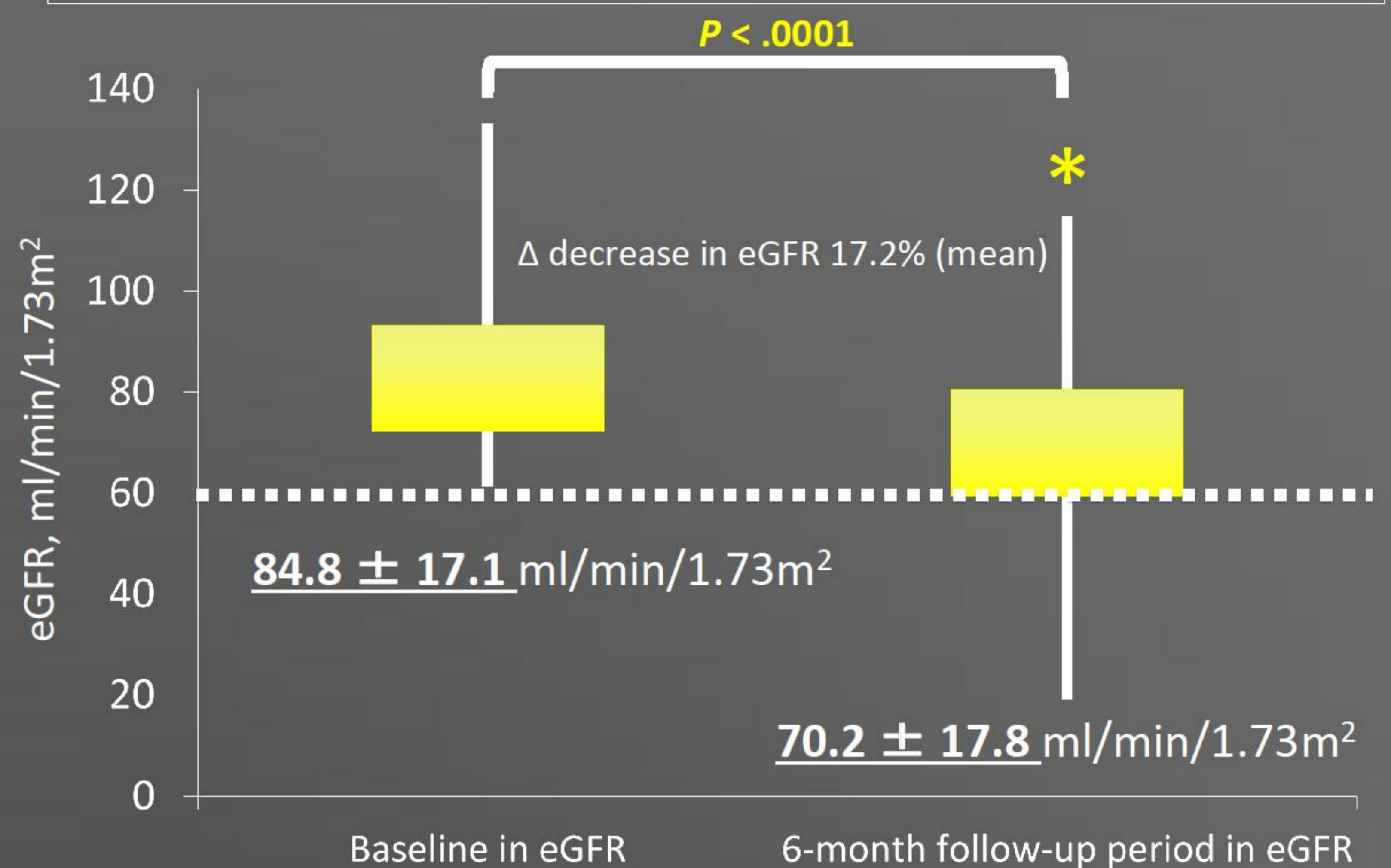
- New-onset renal dysfunction: decrease in eGFR over 25% from baseline.
- Multivariable logistic regression analysis, adjusted for several known risk factors of kidney disease.

## RESULTS

**Table 1. Demographics and laboratory characteristics**

No. of patients	N = 123
Age (y)	66 ± 9
Men (%)	53.7
Performance status < 2 (%)	94.3
Performance status ≥ 2 (%)	5.7
Stage of disease ≥ 3 (%)	77.2
Hypertension (%)	31.1
Diabetes mellitus (%)	39.3
eGFR (ml/min/1.73m <sup>2</sup> )	84.8 ± 17.1

**Figure 1. The change of eGFR**



**Figure 2. Distribution of CKD stages**



**Figure 3. Cox hazard analysis for mortality**

Variable	Univariable analysis		Multivariable analysis	
	OR (95% CI)	P-value	OR (95% CI)	P-value
Cumulative dose of GEM > 12000 mg/m <sup>2</sup>	3.00 (1.33-7.10)	0.0074*	2.81 (1.12-7.44)	0.0275*
Age > 65 years	1.61 (0.74-3.56)	0.2299		
Men	5.26 (2.17-14.3)	0.0005*	4.42 (1.72-12.6)	0.0017*
Diabetes mellitus at baseline	2.80 (1.26-6.39)	0.0112*	3.43 (1.37-8.99)	0.0082*
Hypertension at baseline	1.01 (0.42-2.34)	0.9661		

## DISCUSSION

- eGFR were decreased 17.2% in patients who received GEM. In past reports, patients who received GEM had raised serum creatinine in about 8%. Our study was superior than past ones in point of large population and restricted inclusion criteria.
- Why was eGFR decreased in GEM recipients? It is unclear. Endothelial dysfunction and TMA may be involved.
- New-onset renal dysfunction was associated with cumulative dose of GEM, men, and DM.
  - Cumulative dose of GEM: There are several reports that TMA associated with cumulative dose of GEM (over 20000 mg/m<sup>2</sup>). Reflect endothelial dysfunction??
  - Men: The reason is unknown.
  - DM: This is a reasonable, DM is intimately related to proteinuria.

## SUMMARY

A mild decrease in eGFR is common in GEM recipients, which associated with cumulative dose of GEM.

