中文題目:對於臺灣 ST 段上升急性心肌梗塞經初級冠狀動脈介入治療之病患，血小板醣蛋白 IIb/IIIa 拮抗劑 Tirofiban 可顯著降低 30 天及 1 年之死亡率

英文題目: Tirofiban Is Associated with Decreased 30-day and 1-year Mortality in Taiwanese Patients with ST-segment Elevation Myocardial Infarction Undergoing Primary Percutaneous Coronary Intervention

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Background：Both American and European guidelines have suggested that glycoprotein IIb/IIIa inhibitor (GPI) is beneficial to ST-segment elevation myocardial infarction (STEMI) patients (class IIa, level of evidence: B for tirofiban, the only available GPI in Taiwan). However, little studies have discussed about the effect of GPI use on STEMI patients in Taiwan. Registry of myocardial infarction patients in Taiwan revealed that GPI is not broadly used (24.2% in STEMI) in the daily clinical practice. Bleeding complication, presumably to be more frequent in Asian population, is the major concern. Using the registry data in real world practice, we aimed to evaluate the benefits/ risks of tirofiban use in Taiwanese patients with STEMI.

Materials and Methods：We prospectively enrolled consecutive patients who presented to the emergency department (ED) between 2007 and 2012 with an electrocardiographic diagnosis of STEMI then underwent primary percutaneous coronary intervention (PCI). These patients were divided into two groups by tirofiban usage or not. Study end points were 30-day and 1-year mortality. Clinical bleeding complication, defined as requirement for blood transfusion, was the secondary end point.

Results：A total of 795 patients were analyzed. Overall the study population had a median age of 57-year-old (IQR: 50-66), 88.2% male, 51.2% with anterior STEMI, Killip II~IV 46.3%, and multi-vessel disease 73.2%. There were 60.5% patients receiving tirofiban versus 39.5% patients receiving no tirofiban. Patients with tirofiban use had the lower 30-day and 1-year mortality versus those without tirofiban (2.1% vs. 7.6%, P<0.001 and 4.0% vs 10.8%, P<0.001, respectively). All clinical bleeding complications developed in those patients with no tirofiban use (10.5% vs. 0%, P<0.001). In the univariate analysis, tirofiban use was associated with decreased risks of 30-day and 1-year mortality (crude HR: 0.262, 95% CI: 0.125-0.548, P<0.001; crude HR: 0.346, 95% CI: 0.198-0.607, P<0.001). After adjustment for age, gender, body mass index, baseline creatinine and hemoglobin, Killip class and bleeding complications, tirofiban remained an independent association with decreased 30-day and 1-year mortality (adjusted HR: 0.364, 95% CI: 0.168-0.79, P= 0.011; adjusted HR: 0.516, 95% CI: 0.285-0.936, P= 0.029). Other risk factors associated with mortality

included Killip class, development of clinical bleeding complications and baseline creatinine.

Conclusion：Tirofiban use is associated with lower 30-day and 1-year mortality in Taiwanese STEMI patients receiving primary PCI. Tirofiban use was safe and not associated with increased clinical bleeding complications.

Table 1. Association among variables and mortality by multivariate regression analysis

Variables	HR	95% CI	P
30-day mortality			
Tirofiban use	0.364	0.168-0.790	0.011
Age	1.006	0.978-1.036	0.663
Gender	1.465	0.499-4.295	0.487
Body mass index	1.036	0.949-1.132	0.431
Creatinine	1.027	0.806-1.310	0.828
Hemoglobin	0.879	0.737-1.049	0.152
Killip	2.529	1.856-3.445	<0.001
Clinical bleeding complications	2.474	0.888-6.899	0.083
1-year mortality			
Tirofiban use	0.516	0.285-0.936	0.029
Age	1.014	0.991-1.037	0.225
Gender	0.779	0.374-1.619	0.503
Body mass index	0.972	0.902-1.047	0.454
Creatinine	1.157	0.979-1.366	0.087
Hemoglobin	0.236	0.795-1.058	0.917
Killip	2.312	1.818-2.940	<0.001
Clinical bleeding complications	2.668	1.130-6.300	0.025