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The long-term clinical comparisons of symptomatic patients of pulmonary embolism with and those without deep vein thrombosis: from the COMMAND VTE Registry

K. Murata[1], Y. Yamashita[2], T. Morimoto[3], H. Amano[4], T. Takase[5], S. Hiramori[6], K. Kim[7], Y. Kobayashi[8], M. Oi[9], Y. Tsuyuki[10], J. Sakamoto[11], R. Nawada[1], T. Onodera[1], T. Kimura[2]

[1]Shizuoka City Shizuoka Hospital, Shizuoka, Japan; [2]Kyoto University Graduate School of Medicine, Department of Cardiovascular Medicine, Kyoto, Japan; [3]Hyogo College of Medicine, Division of General Internal Medicine, Nishinomiya, Japan; [4]Kurashiki Central Hospital, Department of Cardiovascular Medicine, Kurashiki, Japan; [5]Kinki University, Department of Cardiology, Osaka, Japan; [6]Kokura Memorial Hospital, Department of Cardiology, Kokura, Japan; [7]Kobe City Medical Center General Hospital, Department of Cardiovascular Medicine, Kobe, Japan; [8]Osaka Red Cross Hospital, Department of Cardiovascular Center, Osaka, Japan; [9]Japan Red Cross Society Wakayama Medical Center, Department of Cardiology, Wakayama, Japan; [10]Shimada Municipal Hospital, Division of Cardiology, Shimada, Japan; [11]Tenri Hospital, Department of Cardiology, Tenri, Japan

On behalf of COMMAND VTE Registry Investigators

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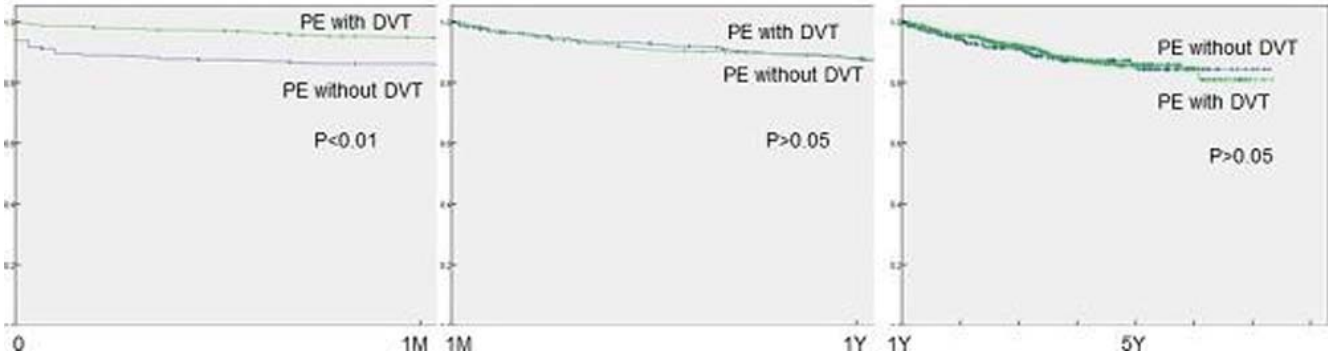
Background: Venous thromboembolism (VTE), including pulmonary embolism (PE) and deep vein thrombosis (DVT), has significant morbidity and mortality. Acute PE, in particular, is fatal if we miss it, and symptomatic patients of PE sometimes have concomitant DVT.

Purpose: This study compared the risk of mortality in symptomatic patients of PE with and those without DVT in the long term.

Methods: The COMMAND VTE Registry is a multicenter registry enrolling consecutive 3027 patients with acute symptomatic VTE objectively confirmed by imaging examination or by autopsy among 29 centers in Japan between January 2010 and August 2014. Patients with both PE and DVT (N=1334) were regarded as PE patients, and the current study population consisted of 1715 PE patients and 1312 DVT patients.

Results: There were 1203 symptomatic patients of PE, including 381 without and 822 with DVT. In our cohort, the mean age was 67.9±14.9 years, 63% was female, 44% had hypertension, 12% diabetes mellitus, 5% history of VTE. There were 20% of active cancer. Baseline characteristics were well matched except for dyslipidemia (18% vs. 23%, p=0.021) and atrial fibrillation (8% vs. 5%, p=0.045). Patients without DVT had a more severe clinical presentation compared to those with DVT, including hypoxemia, shock and arrest. Moreover, Initial parenteral anticoagulation therapy in the acute phase was administered less frequently in patients without DVT (89% vs. 96%, P=0.0001). Two groups received thrombolysis (20% vs. 26%, P=0.18) and mechanical supports (Ventilator 14% vs. 5%, p<0.001, PCPS 5% vs. 3%, p<0.001, respectively). During follow-up, 93 (8%) patients experienced recurrent VTE events and 98 (8%) major bleeding events, and 323 (27%) patients died. The most frequent cause of death was cancer (11%). There were a significant differences in the cumulative incidences of all-cause death between the groups (32% vs. 24%, P=0.006), whereas there was significant difference in VTE-related death (13% vs. 4%, p<0.001). Estimated freedom rates from death for patients of PE without and those with DVT were as follows: 88% vs 99% at 10-day, 86% vs 95% at 1-month, 75% vs 83% at 1-year, and 64% vs 71% at 5-year, respectively.

Conclusions: In symptomatic patients of PE, there was a difference in mortality between groups, but no difference in recurrent VTE. Patients without DVT had a more severe clinical presentation compared to those with DVT, and many VTE-related deaths in the acute phase. The one-month mortality rate differed statistically between groups, but there was no significant difference in long-term survival beyond one month. Most of deaths were due to underlying diseases, mainly cancer, and less commonly due to VTE in the long term.



Landmark analysis