

## Sex differences in door-to-balloon time and long-term adverse events after percutaneous coronary intervention for acute coronary syndrome: a sub-study from the Prospective JAMIR study

T. Kimura<sup>1</sup>, T.I. Ito<sup>1</sup>, S. Honda<sup>2</sup>, K. Nishihira<sup>3</sup>, S. Kojima<sup>4</sup>, M. Takegami<sup>2</sup>, Y. Asami<sup>2</sup>, M. Suzuki<sup>5</sup>, M. Kosuge<sup>6</sup>, J. Takahashi<sup>7</sup>, Y. Sakata<sup>7</sup>, M. Takayama<sup>5</sup>, T. Sumiyoshi<sup>5</sup>, K. Kimura<sup>6</sup>, S. Yasuda<sup>2</sup>

<sup>1</sup>Iwate Medical University, Morioka, Japan; <sup>2</sup>National Cerebral & Cardiovascular Center, Suita, Japan; <sup>3</sup>University of Miyazaki, Miyazaki, Japan; <sup>4</sup>Kawasaki Medical School, Kurashiki, Japan; <sup>5</sup>Sakakibara Heart Institute, Fuchu, Japan; <sup>6</sup>Yokohama City University Hospital, Yokohama, Japan; <sup>7</sup>Tohoku University, Sendai, Japan

On behalf of The JAMIR investigators

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**Background:** Shortening of onset to admission time (OAT) and door-to-balloon time (DBT) is associated with lower adverse cardiac event after primary percutaneous coronary intervention (PCI) in patients with acute myocardial infarction (AMI). Bleeding event also results in poor outcome in patients with AMI after primary PCI. Little is known about sex differences in DBT and ischemic, bleeding events after AMI.

**Purpose:** This study aimed to assess the sex differences of OAT, DTB and adverse cardiac event, incident of bleeding event after primary PCI in patients with AMI.

**Methods:** The Japan AMI Registry (JAMIR) is a multicenter, nationwide, prospective registry enrolling patients with AMI from 50 institutes between December 2015 and May 2017. Primary endpoints of this study were ischemic event (composite of cardiovascular death, myocardial infarction and ischemic stroke) and bleeding event (BARC type 3 or 5). Median follow-up period was 12 months.

**Results:** A total of 3,411 patients were enrolled at first. Among them, 329 patients without treated with PCI and 199 patients missing OAT time were

excluded from this study. A total 2883 patients of men (n=2240, 77.7%) and women (n=643, 22.3%) were enrolled. OAT and DBT of women were significantly longer than that of men (OAT: 130min, interquartile range 62–300 min vs. 155 min, interquartile range 69–350 min,  $p=0.040$ , DBT: 67 min, interquartile range 50–95 min vs. 75 min, interquartile range 53–120 min,  $p<0.001$ ). There was no significant difference in ischemic events between men and women (7.1% vs. 7.5%, log-rank  $p=0.741$ , Figure 1). Multivariate Cox regression analysis showed female sex was significantly associated with lower ischemic event (hazard ratio 0.57; 95% confidence interval 0.38–0.85;  $p=0.007$ ). Bleeding event of women was significantly higher than that of men (BARC type 3 or 5: 3.8% vs. 7.8%,  $p<0.001$ , Figure 2).

**Conclusion:** The real-world database of the JAMIR showed that the female sex was significant factor for the delay in primary percutaneous coronary intervention and high incident of bleeding, however, ischemic event was lower than that of male sex. Sex difference appears to be associated with ischemic and bleeding event after acute myocardial infarction.

