

Sex differences of clinical outcome in MI with obstructive or non-obstructive coronary arteries

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Background/Aims: Myocardial infarction with non-obstructive coronary arteries (MINOCA) is known to be more common in women. However, differences in clinical characteristics or prognosis between men and women in MINOCA are not well known.

Methods: Between January 2005 and December 2015, 41,066 eligible patients (11,408 women; mean age = 63 ± 12 years old) undergoing coronary angiography who were enrolled in the Korean acute MI Registry were finally analyzed. The major adverse cardiac and cerebrovascular events (MACEs) were defined as death, non-fatal MI, and repeat revascularizations at 1 year.

Results: Of these, 1,978 (4.8%) were diagnosed with MINOCA. Females were more commonly diagnosed with MINOCA than males (6.5% versus 4.2%, $p < 0.001$). Among types of MINOCA, coronary spasm (7.7% versus 4.9%) and myocardial bridge (2.8% versus 1.9%) was more common in males than females ($p = 0.017$). Patients diagnosed with MINOCA were younger than those with MIOCA (60.0 ± 13.4 versus 63.5 ± 12.7 , $p < 0.001$). MIOCA patients had more cardiogenic shock and ventricular arrhythmia during hospitalization and received more secondary prevention medications at discharge than MINOCA patients. MINOCA patients had significantly lower MACEs (9.2% versus 16.1%, log-rank $p < 0.001$) than MIOCA patients. Females had significantly greater MACEs (9.2% versus 16.1%, log-rank $p < 0.001$) than males. There were no significant differences in the MACEs of males and females diagnosed with MINOCA. Females had greater MACEs than males following a diagnosis of MIOCA (20.9% versus 14.3%, log-rank $p < 0.001$). Females (20.9% versus 9.4%, log-rank $p < 0.001$) as well as males (14.3% versus 9.0%, log-rank $p = 0.03$) diagnosed with MIOCA versus those diagnosed with MINOCA had a significantly lower MACEs.

Conclusions: Although MINOCA is more common in females, females with MIOCA had greater MACEs versus males. These indicates that female patients diagnosed with MINOCA and MIOCA must be provided with appropriate diagnostic workup and secondary prevention therapy to reduce MACEs.

