

Sex-related differences in clinical features and in-hospital outcomes of acute aortic dissection type b

T. Takahashi, H. Yoshino, K. Akutsu, T. Shimokawa, H. Ogino, T. Kuniyama, M. Usui, K. Watanabe, M. Kawata, H. Masuhara, M. Yamasaki, K. Hagiya, T. Yamamoto, K. Nagao, M. Takayama

Tokyo CCU Network, Tokyo, Japan

On behalf of Tokyo Acute Aortic Super-network

Funding Acknowledgement: Type of funding source: None

Background: Acute aortic dissection (AAD) is a life-threatening medical condition with high morbidity and mortality. The association between female sex and poorer outcomes following surgery for AAD type A has been reported; however, the sex-related differences in clinical features and in-hospital outcomes of AAD type B remain to be elucidated.

Methods: We studied a total of 1877 patients with AAD type B who were enrolled in the Tokyo Acute Aortic Super-network from January 2013 to December 2016. Clinical features and in-hospital outcomes were compared between sexes. Independent predictors of in-hospital mortality were assessed using a multivariable analysis.

Results: The mean age of the patients was 69±13 years and 549 (29%) were females. Female patients were older than males (74±13 years vs 67±13 years; $p<0.001$). Females had lower systolic blood pressure on admission (158±37 mmHg vs 164±38 mmHg; $p=0.007$) and were more likely to have altered consciousness level at presentation (8.7% vs 3.9%; $p<0.001$), intramural hematoma (IMH)-type AAD (62.7% vs 53.6%;

$p<0.001$), and DeBakey type IIIa (28.4% vs 21.8%; $p=0.002$) compared with males. Females were treated with medical therapy alone more frequently (90.3% vs 85.9%; $p=0.009$) and had a higher in-hospital mortality rate (5.3% vs 2.6%; $p=0.036$). A multivariable analysis revealed that age [per year, odds ratio (OR) 1.06; 95% CI 1.04–1.09; $p<0.001$], altered consciousness level (OR 3.28; 95% CI 1.54–6.98; $p=0.002$), shock/hypotension (OR 14.0; 95% CI 5.92–33.1; $p<0.001$), classic-type AAD (OR 2.54; 95% CI 1.36–4.73; $p=0.003$), and medical therapy alone (OR 0.28; 95% CI 0.15–0.54; $p<0.001$) were independent predictors of in-hospital mortality, whereas female sex was not predictive of in-hospital mortality (OR 1.64; 95% CI 0.91–2.96; $p=0.10$).

Conclusion: In AAD type B, females were older and had altered consciousness level, IMH-type, and a less widespread dissection more frequently than males. The overall in-hospital mortality was higher in females; however, female sex was not associated with in-hospital mortality after multivariable adjustment.