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IMAGES IN CARDIOLOGY

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Periodic fluctuation of blood pressure and transient left ventricular apical ballooning in pheochromocytoma

A 63-year-old woman with a history of hypertension was presented to our emergency department because of substernal chest pain and ST segment elevation in 12 lead ECG. On presentation, troponin T was positive and an echocardiogram showed a pronounced left ventricular (LV) apical asynergy. We suspected acute coronary syndrome, and an emergent cardiac catheterisation was performed. However, the coronary angiography revealed no obstructive coronary lesion, and left ventriculography demonstrated akinesia of the mid-to-distal portion of the LV chamber—that is, “apical ballooning” (panel A). After admission to the intensive care unit, her haemodynamics were subsequently unstable. The direct blood pressure monitoring showed cyclic change at 20 minute intervals. Therefore, we started treatment with continuous intravenous phentoramine. Just after administration of this infusion, the periodic fluctuation of blood pressure diminished effectively (panel B). The plasma catecholamine values were high, and 24-hour urine collection for catecholamines also showed notably high values, such as an epinephrine (adrenaline) concentration of 7020 µg (normal < 30 µg/day). Further examination with an abdominal computed tomographic (CT) scan identified a left adrenal mass, and iodine-123-metaiodobenzylguanidine scintigram showed an uptake in the corresponding region. Consequently, the patient was diagnosed with pheochromocytoma. After the medical management with α and β adrenergic blockade for two weeks, her blood pressure stabilised. Interestingly, a repeat echocardiogram showed the LV wall motion reverting to normal. Conclusively, the transient LV apical

ballooning was thought to be caused by the pheochromocytoma crisis. Thereafter the patient underwent a left adrenalectomy uneventfully.

M Otsuka
K Kohno
A Itoh
amiuap@nifty.com