

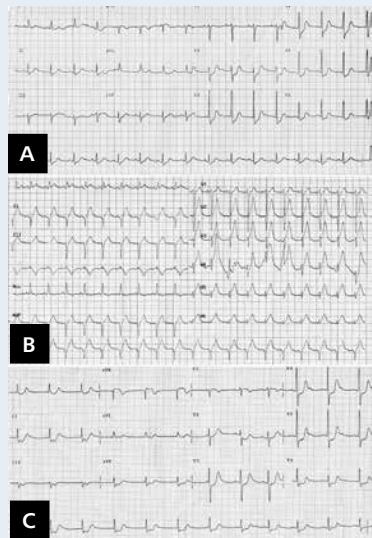
# Various ventricular wall motion abnormalities associated with pheochromocytoma in a 53-year-old female

Różne zaburzenia kurczliwości serca związane z guzem chromochłonnym u 53-letniej kobiety

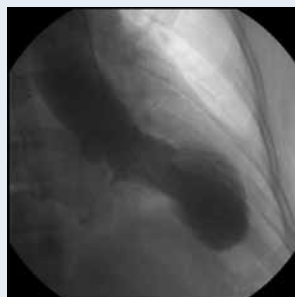
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A 53-year-old female was admitted in October 2000 with acute onset of dyspnoea. Chest X-ray showed pulmonary oedema. Electrocardiography (ECG) showed sinus tachycardia. Echocardiography (ECHO) revealed diffuse hypokinesia of the left ventricle (LV) and LV enlargement. The patient showed significant clinical improvement after inotropic, diuretic, and vessel dilatory treatment. In May 2005, the patient was admitted again with dyspnoea. ECHO showed hypokinesia of LV middle and basal segments with normal chamber diameter. ECG showed ST depression in  $V_2$ - $V_6$  lead (Fig. 1A). The patient refused coronary angiography and was discharged. In May 2010, the patient had a third relapse of dyspnoea. ECG showed sinus tachycardia and ST elevation of II, III, AVF and  $V_2$ - $V_6$  lead (Fig. 1B). Coronary angiography showed normal coronary arteries. Left ventriculography showed apical akinesia and basal hyperkinesia (Fig. 2). In July 2011, the patient had a fourth relapse of dyspnoea. ECG showed ST depression in II, III, aVF and  $V_2$ - $V_6$  lead (Fig. 1C). ECHO revealed posterior and lateral basal hypokinesia. This time we found a mass located at the right adrenal gland by computed tomography scan (Fig. 3). Mass excision was performed and pathologic examination disclosed a grey-red mass measuring 75 × 45 × 35 mm with complete capsule. Histopathologic examination confirmed adrenal pheochromocytoma (Fig. 4). Follow-up ECHO revealed normalised wall motion abnormalities. The patient remains asymptomatic three years after the operation.



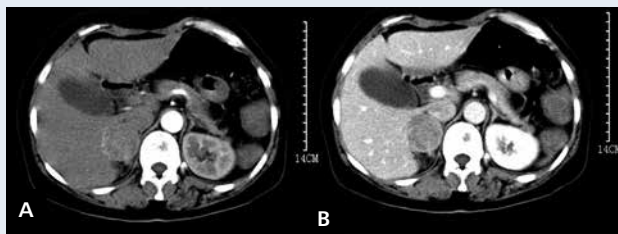
**Figure 1.** Electrocardiogram at second (A), at third (B), and at fourth (C) admission



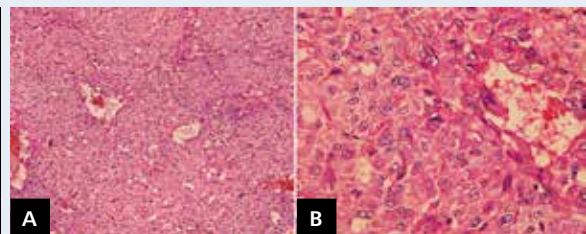
**Figure 2.** Left ventriculography at third admission

Pheochromocytoma can cause cardiac manifestations including a transient, reversible cardiomyopathy that is called catecholamine cardiomyopathy (Zelinka T et al. *Horm Metab Res*, 2012; 44: 379–384). It can resemble Takotsubo cardiomyopathy as during the third hospitalisation (Ueda H et al. *Int J Cardiol*, 2011; 149: e50–e52), as well as inverted-Takotsubo cardiomyopathy as during the second hospitalisation (Kim S et al. *Clin Cardiol*, 2010; 33: 200–205). The ECGs are non-specific (Mitsuma W et al. *Am J Cardiol*, 2007; 100: 106–109). Our case appears unique and LV wall motion abnormalities during four episodes that are different in the same patient requires the vigilance of clinicians. Tumour resection is most helpful for this patient.

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**Figure 3.** Computed tomography scan of bilateral adrenal gland; A. Arterial phase; B. Venous phase



**Figure 4.** Histopathologic examination confirmed adrenal pheochromocytoma; A. Original ×100; B. Original ×400

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