

中文題目：以冠狀動脈線圈栓塞(coil embolization)治療肥厚型心肌病變併左心室出口通道阻塞之個案報告

英文題目：A Case Report of Coil Embolization for Septal Ablation, a treatment strategy for Hypertrophic Cardiomyopathy with Left Ventricular Outflow Tract obstruction

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Introduction

Hypertrophic cardiomyopathy (HCM) is a genetically determined heart muscle disease, and which may developed of heart problem such as LVOT obstruction, diastolic dysfunction, myocardial ischemia, or Mitral valve regurgitation. These structural and functional abnormalities cause symptoms of exertional dyspnea, chest pain, fatigue, palpitations, syncope, or even sudden cardiac death (SCD). Left ventricular outflow tract (LVOT) obstruction is a strong, independent predictor of heart failure (HF) symptoms. Treatment strategies attempt to increase LV chamber size or decrease cardiac inotropy, thereby diminishing systolic anterior motion (SAM)-septal contact, resulting in a reduced or abolished LVOT gradient. Pharmacologic therapy is the first-line treatment strategy in patients with HCM and symptomatic LVOT obstruction. For patients with heart failure([NYHA] class III/IV), persist despite maximal medical therapy, or patients have recurrent syncope judged to be related to hemodynamic compromise from LVOT obstruction, and an LVOT gradient ≥ 50 mmHg is present at rest or with provocation, invasive septal reduction therapies may be indicated. Coil embolization is a new choice different from surgical myectomy or alcohol septal ablation.

Case presentation

Here we report a case of 18 years old male who denied any previous systemic disease before except for left ventricular hypertrophy noted from health examination with unknown etiology. Decreasing effort and deterioration of dyspnea on exertion was complained by himself recently, but no other symptom and sign of infection, bleeding, or hematology problem was noted. Echocardiogram on 2018.8.16 showed adequate LV systolic function; HOCM with LVOT obstruction (LVOT pressure gradient 120 mmHg); and SAM(systolic anterior motion). Inderal was prescribed initially for the diagnosis of Hypertrophic obstructive cardiomyopathy (HOCM) with Left ventricular outflow tract obstruction. Cardiac computed tomographic angiography showed Right-dominant coronary circulation pattern, and no evidence of congenital anomaly of coronary artery. TVP(Transvenous pacing) was inserted for prophylaxis of arrhythmia, and then Coil Embolization LAD first septal branch was performed. LVOT Pressure gradient measured during catheterization initially revealed 127 mmHg, but then decreased to 58 mmHg after embolization. Non-sustained ventricular tachycardia was noted on the next day of coil embolization, but returned to normal sinus rhythm after verapamil use. Followed cardiac enzyme peak on the next day after coil embolization. Strain echocardiogram revealed Adequate LV systolic function but impaired systolic function of septal wall near LVOT, which represented successful embolization by coil. Pressure gradient decreased initially from 127 mmHg to 58 mmHg, but rebound to 157.8 mmHg, suspect post embolization ischemia resulting inflammation related. We will follow up series echocardiogram.

Discussion

For patient of HOCM who needs invasive septal reduction therapies, coil embolization of the septal perforator for septal ablation is safe, effective, and durable strategy.