Cardiac resynchronization therapy is rarely used in young patients with heart failure showing poor ventricular ejection fraction, and wide QRS complex. We experienced the case of a 11-month-old infant with tetralogy of fallot, postsurgical atroventricular block after total correction, and severe heart failure for mechanical dyssynchrony. She underwent tetralogy of fallot total correction and permanent pacemaker implantation in right ventricle at her age of 5.8 months and 6 months, respectively. She gradually deteriorated during follow-up, showing poor ventricular ejection fraction under 20%, and wide QRS complex over 130 milliseconds with significant left ventricular dyssynchrony. And she was admitted to the intensive care unit requiring respiratory and inotropic intravenous support at 11 months of age. So she underwent device upgrade to CRT-p. After 2 months after the cardiac resynchronization therapy, the patient showed significant clinical improvement, improved left ventricular systolic function, and decreased QRS duration.