

## Favourable pregnancy outcome in a woman with secondary pulmonary hypertension complicating mitral stenosis

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### INTRODUCTION

Pulmonary hypertension (PH) is a rare condition with a high incidence of maternal and perinatal mortality (30–56% and 10–13%, respectively). Pulmonary hypertension is a contraindication to pregnancy because of high risk of maternal death, therefore the World Health Organisation (WHO) advises to discuss a termination in the event of pregnancy with women suffering from PH.

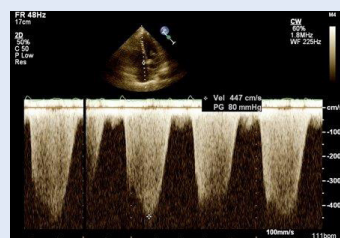
### CASE REPORT

A 34-year-old primigravida was admitted due to new-onset dyspnoea, fatigue and central cyanosis. Medical history was non-contributory: she denied prior cardiopulmonary diseases and any signs or symptoms suggestive of cardiac abnormalities. However, since the beginning of the 2<sup>nd</sup> trimester of pregnancy she has complained of a non-productive cough, intensified by exertion.

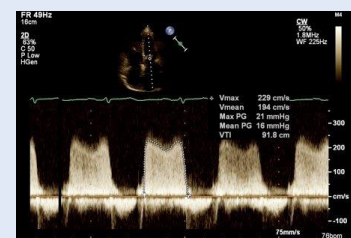
The transthoracic echocardiography revealed a mitral valve thickening with limited cusps mobility. An estimated mitral valve area was 1.1 cm<sup>2</sup>, with peak and mean diastolic gradients across the valve 29 and 17 mm Hg. Left ventricular ejection fraction was 60%. The tricuspid regurgitation pressure gradient (TRPG) reached 80 mm Hg. Distended vena cava inferior was detected and right ventricular systolic pressure (RVSP) reached 100 mm Hg. The patient was diagnosed with severe PH secondary to severe mitral stenosis. Therapy with 40 mg furosemide was administered once daily. Percutaneous mitral valvuloplasty was considered, however, due to relatively stable condition it was not performed during pregnancy. The patient was in a stable general condition but presented a high risk of a pulmonary oedema and tachyarrhythmias with possible deterioration of patients' condition.



**Figure 1.** Third trimester of pregnancy. Two-dimensional echocardiography, the parasternal short-axis view. Thickened mitral valve leaflets. A planimetric measurement of mitral valve area. Mitral stenosis



**Figure 2.** Tricuspid regurgitation used to estimate right ventricular pressure. Peak gradient (PG) calculated using the formula  $4V^2$



**Figure 3.** Echocardiography on the 6<sup>th</sup> day after delivery. Slightly lower peak (maxPG) and mean (meanPG) gradients across the mitral valve

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### **Perinatal management and neonatal outcome**

The antepartum cardiotocography as well as the ultrasound examination did not reveal any anatomical abnormalities nor biometric anomalies of the foetus. The antenatal corticosteroid therapy was prescribed. Subsequently in the 34<sup>th</sup> week of gestation an elective caesarean section in general anaesthesia was performed, throughout the surgery she was hemodynamically stable. A healthy female newborn was delivered.

The woman's postoperative course was uneventful. The therapy with oral diuretics was continued with beta-blocker and potassium supplementation. An anticoagulant prophylaxis with enoxaparin sodium injections was administered. The postoperative echocardiography demonstrated lower peak and mean gradients across the mitral valve: 21 and 16 mm Hg, respectively and markedly decrease of TRPG — 48 mm Hg and RVSP — 60 mm Hg. A tricuspid annular plane systolic excursion was 18 mm. The mother and baby were discharged on the 9<sup>th</sup> postoperative day.

### **CONCLUSIONS**

Asymptomatic women suffering from PH might become symptomatic in advanced pregnancy. The optimal timing of delivery may lead to better maternal and neonatal prognosis, therefore the combined therapy and a mode of the delivery should be carefully considered by a multidisciplinary team.