

## Postpartum Group B Streptococcal Tricuspid Valve Endocarditis

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**Key words:** Group B Streptococcus, endocarditis, tricuspid valve, normal delivery

IMAJ 2006;8:883–884

Streptococcus Lancefield Group B (*S. agalactia*) is a major pathogen causing substantial pregnancy-related morbidity, particularly in the peri- and postpartum periods. Infective endocarditis, however, is a rare manifestation of invasive *S. agalactia* disease in pregnant patients [1,2] and has not been reported in a patient after a normal delivery, as described in the following case study.

### Patient Description

A 27 year old woman presented to the labor ward of the hospital for the birth of her second child. She was previously healthy with no significant medical history, was not taking any medication, was not a drug abuser and smoked 10 cigarettes per day. During the pregnancy she had mild hypertension without proteinuria, treated with atenolol 25 mg daily.

The pregnancy culminated in an uncomplicated normal vaginal delivery of a healthy child. Two hours after delivery she had an episode of shaking chills with a temperature of 37.6°C. A complete blood count revealed hemoglobin 11.2 g/L, and a white cell count 22 x 10<sup>9</sup>/L with 80% neutrophils. A vaginal swab was taken for culture, but not blood cultures. Blood cultures were taken from the baby, who was in good condition. The patient was transferred to the postnatal ward. A few hours later, she had had a fever of 38°C but she still felt well and asked to be discharged. The next day the temperature was 36°C and she was sent home together with her baby. The culture of vaginal secretions revealed beta hemolytic Streptococcus, Lancefield Group B, and the baby's blood culture was negative.

Following discharge she had a persistent low grade fever. After a few days she was referred back to the hospital for

further assessment. Physical examination showed a temperature of 38°C, pulse 108/minute, blood pressure 125/80 mmHg. Heart sounds were normal without any pathologic murmurs, the chest was clear and abdominal examination unremarkable. There were no signs of mastitis. Vaginal examination and transvaginal ultrasound were normal. Laboratory tests revealed hemoglobin of 11.9 g/L, white cell count 18.2 x 10<sup>9</sup>/L with 84% neutrophils, and a platelet count of 248 x 10<sup>9</sup>/L. Blood and urine cultures were taken and empiric antibiotic therapy commenced with ampicillin, gentamycin and metronidazole.

The following day the patient complained of severe right pleuritic chest pain. Physical examination showed diminished air entry to the lower part of the right lung. Oxygen saturation on room air was 98%. Chest X-ray demonstrated right lower lobe infiltration. Computed tomography pulmonary angiography did not reveal any evidence of pulmonary embolus, but the distribution of the consolidations (inferior segments of both lungs and of the lingual lobe) suggested septic emboli. The blood cultures were found to be positive for Group B hemolytic Streptococcus. Transthoracic echocardiography revealed normal cardiac chambers with good function of both left and right sides of the heart. A small mobile lesion was suspected on the atrial aspect of one of the leaflets of the tricuspid valve and confirmed by a transesophageal echocardiogram, demonstrating a prolapsed posterior tricuspid valve leaflet without thickening, and moderate to severe tricuspid regurgitation. Therapy with ampicillin and gentamycin was continued and the patient became asymptomatic after 7 days, and was discharged after 14 days to complete 4 weeks of intravenous antibiotics at

home. Another TEE after 2 weeks showed persistent moderate to severe TR with a very small residual vegetation. At follow-up 1 year later she was in good condition, albeit with moderate to severe TR.

### Comment

We report for the first time a case of Group B Streptococcus endocarditis after a normal delivery. Two reviews of pregnancy-associated GBS endocarditis [1,2] reported a total of 31 cases with 6 cases of tricuspid GBS. None of the tricuspid cases occurred after normal delivery. Four of the six were after elective abortion, one after Papanicolaou cervical smear, and one associated with a giant pyomyoma. All six cases however, like our patient, had no apparent tricuspid valve disease, as has also been reported regarding tricuspid GBS endocarditis in the non-gynecologic setting [3]. The course of our patient is typical of the other cases with the major complication being septic pulmonary emboli. Usual treatment includes combination of beta-lactam antibiotic with aminoglycoside for 4–6 weeks.

Group B streptococci can be isolated from genital or lower gastrointestinal tract cultures of pregnant and non-pregnant women at rates ranging from 5% to 40% [4]. This colonization in pregnant women serves as the origin of neonatal sepsis and maternal endometritis, chorioamnionitis and bacteremia. The approach to screening for GBS carriage in pregnancy and treatment of asymptomatic carriers, however, remains controversial [5].

In conclusion, we report a case of Group B streptococcal tricuspid valve

TR = tricuspid regurgitation

TEE = transesophageal echocardiogram

GBS = Group B Streptococcus

endocarditis occurring after a normal delivery. Despite the fact that this is a rare condition, it emphasizes the importance of blood cultures and echocardiography in postpartum patients with persistent fever.

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