Postpartum Group B Streptococcal Tricuspid Valve Endocarditis

Zvi Shimoni MD1,2, Mordechai Ben David MD3 and Mark J. Niven MD2

Departments of 1Infectious Diseases, 2Internal Medicine B and 3Gynecology, Sanz Medical Center, Laniado Hospital, Netanya, Israel

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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^{9}/L with 80% neutrophils. A vaginal swab was taken for culture, but not blood cultures. 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 endocarditis.
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.

References

Correspondence: Dr Z. Shimoni, Dept. of Internal Medicine B, Sanz Medical Center, Laniado Hospital, Kiryat Sanz, Netanya 42150, Israel. Phone: (972-9) 860-4781 Fax: (972-9) 860-9284 email: zshimoni@laniado.org.il

When I approach a child, he inspires in me two sentiments: tenderness for what he is, and respect for what he may become

Louis Pasteur (1822-1895), French chemist and bacteriologist, best known for demonstrating how to prevent milk and wine from going sour, which came to be called pasteurization. His experiments confirmed the germ theory of disease, and he created the first vaccine for rabies. One of the main founders of bacteriology, the other major figure being Robert Koch, he also made many discoveries in the field of chemistry, most notably the asymmetry of crystals.

Capsule

Waterless foam for better skin delivery

A new foam vehicle for the delivery of water-insoluble and water-sensitive dermatologic drugs is now on the market. The main components of this carrier are propylene glycol, glycerin and additional polar solvents, which are known to enhance the delivery of active agents into the skin while providing a high skin hydration effect. Several accelerated stability studies, encompassing a broad spectrum of corticosteroids as well as non-steroidal active agents, demonstrated excellent stability in all cases. The formulation produces a stable foam when released from a pressurized aerosol can, is easily applied with gentle spreading and is instantly absorbed into the skin. The manufacturer, Foamix, chose specific, delicate FDA-approved non-ionic surfactants and polymers to create the foaming action.

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Capsule

Low frequency of poultry-to-human H5N1 virus transmission

Vong et al. from Cambodia tried to understand transmission of avian influenza A (H5N1) virus. They conducted a retrospective survey of poultry deaths and a seroepidemiologic investigation in a Cambodian village where a 28 year old man was infected with H5N1 virus in March 2005. Poultry surveys were conducted within a 1 km radius of the patient’s household. Forty-two household flocks were considered likely to have been infected from January through March 2005 because > 60% of the flock died, case-fatality ratio was 100%, and both young and mature birds died within 1 to 2 days. Two sick chickens from a property adjacent to the patient’s house tested positive for H5N1 on reverse transcription-polymerase chain reaction. Villagers were asked about poultry exposures in the past year and were tested for H5N1 antibodies. Despite frequent and direct contact with poultry suspected of having H5N1 virus infection, none of 351 participants from 93 households had neutralizing antibodies to H5N1. The authors conclude that H5N1 virus transmission from poultry to humans remains low in this setting.

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Eitan Israeli