

Postpartum Tricuspid Infective Endocarditis

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Abstract

The B streptococcal endocarditis is very rare. It mainly concern the left heart valves; the achievement of the tricuspid valve remains exceptional. We report an observation about a case of infective endocarditis on the tricuspid valve, observed in a 34 year old female patient, without pre- or post-partum follow-up, whose evolution was marked by the regression of the general signs as well as congestive signs and vegetation size after 6 weeks of antibiotic therapy with cephalosporin and gentamycin. The patient was operated with a good evolution.

Keywords: Endocarditis; Tricuspid Valve; Post-Partum Period; Tricuspid Valve Endocarditis; Streptococcus Group B; Surgery

Introduction

The tricuspid endocarditis is not exceptional, it is usually found in favorable circumstances: intravenous drug use, immunodepression, pacemaker's probe, central venous catheter, dialysis patients, illegal confinement, multi valvular endocarditis.

The occurrence in the context of post-partum is rare but not exceptional and seems to be related to the conditions of labor and child-birth.

In this article we report the case of postpartum B Streptococcal Tricuspid Infective Endocarditis in an elderly patient of 34 years.

Case Report

Ms. L.E, 34 years old, she was previously healthy with no past medical history, was not a drug abuser, 3rd gesture 3rd pare, who presented to the emergency for prolonged fever and an altered state associated with lower legs edema lasting for 2 weeks before admission and occurred 4 days after a vaginal delivery at home.

The clinical examination at admission revealed an asthenia, paleness, fever at 39.3°C; orthopnea, tachycardia at 112 beats/min, blood pressure of 107/56 mmHg, large edema of the lower extremities reaching the mid-thighs, turgid jugular veins distension, cardiac auscultation revealed a xiphoid holosystolic murmur and abdominal examination found a distended abdomen with slanting dullness on percussion with a negative urinary strip.

The electrocardiogram showed isolated sinus tachycardia without other abnormalities, cardiomegaly and blunting of the pleural sac butts were found on the chest x-ray.

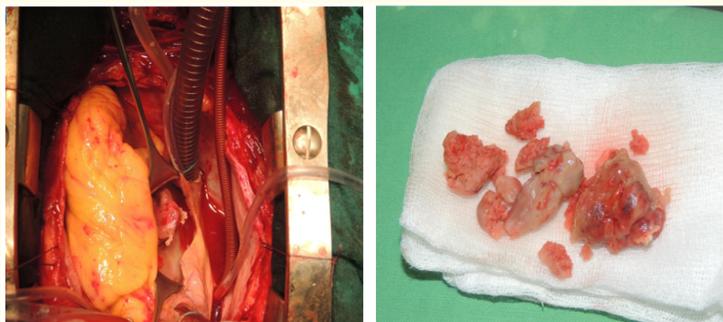
Transthoracic and transesophageal echocardiography showed large and mobile vegetation on tricuspid valve measuring 30 x 23 mm, on the septal leaflet, with pedunculated base, tricuspid regurgitation was important refluxing into the hepatic veins, pulmonary artery hypertension of 70 mmHg, the right cavities were dilated (VD/VG > 1), with right ventricular systolic dysfunction (TAPSE = 12 mm, S' = 8 cm/s), the left ventricle, mitral and aortic valves were normal.

Laboratory results showed elevated CRP 340mg/l, and elevated leukocytes of 22000/mm³ with predominant neutrophils (17500/mm³), inflammatory anemia with an hemoglobin of 8.5 g/dl and accelerated sedimentation rate 40 mm, HIV serology was negative.

A set of 3 blood cultures taken 1 hour apart were positive and isolated Group B *Streptococcus*.

The body scan performed as part of the extension assessment has not showed image of septic embolism.

The diagnosis of tricuspid endocarditis was retained, a bi antibiotic treatment based on third generation cephalosporin and gentamycin was established, after 7 days, the evolution was marked by apyrexia, regression of right heart failure signs, with a gradual improvement in echocardiographic parameters and reduction in vegetation size to 17 x 15 mm after 6 weeks of treatment, the patient subsequently benefited from a vegetectomy in association with tricuspid valve repair, then discharged after simple postoperative follow-up and good evolution.



Discussion

The pregnancy is associated with physiological changes, some of which remained completely elucidated including cardiac changes especially moderate tachycardia, increase preload and low afterload [1].

In addition, there is a local modulation of the maternal immune system including an increase in innate immunity and decrease in B cytotoxic cells. During the third trimester, immunomodulation changes persist to create pro-inflammatory environment that contributes to uterine contractions and delivery of the fetus and placenta [1].

Given these alterations, the pregnancy period can be considered model of cardiac stress with multiple contributing factors.

We report the case of postpartum tricuspid infective endocarditis after a vaginal delivery at home, since, infective endocarditis can occur during pregnancy and the puerperal period, many cases have been reported in the literature [2,3], in the context of delivery and

post-partum, it occurs most often after vaginal birth rather than caesarean section as demonstrated by a case series study, which included 99 cases of infectious endocarditis associated with gynecological obstetric events (pregnancy, post-partum, abortion, endo-uterine maneuvers), 18% occurred during the post-partum period, 88% of which followed a vaginal delivery [4].

Underlying heart disease including rheumatic heart disease or congenital heart disease was the most common predisposing condition in patients with known history, but only 21 cases of endocarditis on normal heart valves have been described [4].

Potential pre-emptive factors that seem to be frequently associated with the development of postpartum endocarditis include prolonged labor, premature rupture of membranes, manual removal of the placenta and intrauterine extraction maneuvers [4].

Right heart endocarditis accounted for 5 - 10% of all endocarditis [5], in patients with congenital heart disease, infectious endocarditis of the left ventricle, right ventricle, and both were 46.4%, 32.7% and 2.3% [6]. The prevalence of isolated tricuspid infectious endocarditis and pulmonary endocarditis was 2.5 to 3.1% [7] and 2% [8], respectively.

Although endocarditis of the right ventricle is frequently encountered in intravenous drug users, particularly in HIV-infected individuals, or in the presence of a central venous approach, they may develop in the absence of such conditions. In fact, according to several publications, as well as cases and series of cases carried out in this way, 299 patients with endocarditis of the right ventricle were obtained, 1.2% of whom were women during post-partum period [9].

The incriminated germ of endocarditis in this case is group B *Streptococcus*; in fact, many reported cases of tricuspid endocarditis occurring during pregnancy or postpartum or following abortion seem to be attributable to group B *Streptococcus* (*Streptococcus agalactiae*) [10,11]; moreover, in a review of the B *Streptococcus* pregnancy-endocarditis association, a total of 31 patients were reported, of which 6 cases had B *Streptococcus* endocarditis with tricuspid localization [2,12], however, none of the six, as in the case of our patient, have apparent tricuspid valvulopathy, as was also reported with respect to tricuspid endocarditis with Group B *Streptococcus* in non-gynecological context.

These bacteria can be genetically isolated in 5 to 40% of women and cause chorioamnionitis, endometritis, maternal bacteremia and neonatal sepsis [4,12,13].

Conclusion

In conclusion, we report a case of Group B streptococcal tricuspid endocarditis occurring after a postpartum context. Despite the fact that this is a rare condition, it emphasizes the importance of blood cultures and echocardiography in postpartum patients with persistent fever.

Though rare, GBS endocarditis is exceedingly aggressive and can have long lasting sequelae. Tricuspid valve involvement is rare and frequently occurs in postpartum and patients with debilitating diseases.

Because of valve mutilation, severe complications, and poor prognosis, an appropriate medical-surgical approach seems to be the strategy of choice in this infection.

Bibliography

1. Kalie Y, *et al.* "Pregnancy and Postpartum Infective Endocarditis: A Systematic Review". *Mayo Clinic Proceedings* 89.8 (2014): 1143-1152.
2. Sexton DJ, *et al.* "Pregnancy-associated group B streptococcal endocarditis: a report of two fatal cases". *Obstetrics and Gynecology* 66.3 (1985): 44-47S.

3. Palys EE., *et al.* "Tricuspid valve endocarditis with Group B Streptococcus after an elective abortion: the need for new data". *Infectious Diseases in Obstetrics and Gynecology* (2006): 432-53.
4. Seaworth BJ and Durack DT. "Infective endocarditis in obstetric and gynecologic practice". *American Journal of Obstetrics and Gynecology* 154.1 (1986): 180-188.
5. Chan P., *et al.* "Tricuspid valve endocarditis". *American Heart Journal* 117.5 (1989): 1140-1146.
6. Knirsch W and Nadal D. "Infective endocarditis in congenital heart disease". *European Journal of Pediatrics* 170.9 (2011): 1111-1127.
7. Heydari AA., *et al.* "Isolated tricuspid valve endocarditis". *International Journal of Infectious Diseases* 13.3 (2009): 109-111.
8. Ramadan FB., *et al.* "Isolated pulmonic valve endocarditis in healthy hearts: a case report and review of the literature". *Canadian Journal of Cardiology* 16.10 (2000): 1282-1288.
9. Shi-Min Yuan. "Right-sided infective endocarditis: recent epidemiologic changes". *International Journal of Clinical and Experimental Medicine* 7.1 (2014): 199-218.
10. Shimoni Z., *et al.* "Postpartum group B streptococcal tricuspid valve endocarditis". *Israel Medical Association Journal* 8.12 (2006): 883-884.
11. Atri ML and Cohen DH. "Group B streptococcus endocarditis following second trimester abortion". *Archives of Internal Medicine* 150.12 (1990): 2579-2580.
12. Crespo A., *et al.* "Group B streptococcal endocarditis in obstetric and gynecologic practice". *Infectious Diseases in Obstetrics and Gynecology* 11.2 (2003): 109-115.
13. Krohn MA., *et al.* "Maternal peripartum complications associated with vaginal group B streptococci colonization". *Journal of Infectious Diseases* 179.6 (1999): 1410-1415.

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