

## Aortic valve streptococcus group B endocarditis post-extracorporeal shock wave lithotripsy

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### Case Report

#### Abstract

**BACKGROUND:** Sub-acute left-sided bacterial endocarditis is a serious condition that may present with variable clinical manifestations. Its symptoms include both sterile and infected emboli, and various immunological phenomena.

**CASE REPORT:** This report presents a 55 year old man with frequency and dysuria after a lithotripsy and several admissions with urosepsis. Due to the suspicion of infective endocarditis echocardiography was done which confirmed streptococcus group B endocarditis.

**CONCLUSION:** Streptococci group B is one of the rare causes of infective endocarditis, but it was observed after various producers such as lithotripsy.

**Keywords:** Group B Streptococci, Infective Endocarditis, Lithotripsy

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#### Introduction

Infective endocarditis is a cardinal disease that can appear in acute and sub-acute pattern. The acute form of this disease is typically caused by staphylococcus aureus and can disturb the valve from a few days to weeks. Moreover, the disease can progress in just a few days. Sub-acute infective endocarditis is usually caused by viridans streptococci, enterococci, coagulase-negative staphylococci, and gram-negative coccobacilli during days to weeks and has less toxin signs.<sup>1</sup> The prevalence of infective endocarditis remained almost constant from 1970 to 2000 and is about 3.6 to 7 cases per 100000 in a year.<sup>1</sup> Some risk factors that can increase infective endocarditis prevalence are rheumatic heart disease, congenital heart disease, IV drug use, cardiac internal devices, and generative diseases.<sup>1</sup> Today, in the general population the most common organisms of native valve endocarditis are staphylococcus aureus and streptococci group B is one of the most rare causes of infective endocarditis.<sup>1,2</sup>

#### Case Report

A 55 year old man referred with the chief complaint of frequency and dysuria, and urinary tract infection. Examination of the patient showed 4 to 6

mm renal stones in right kidney, 3 small stones in the left kidney, and also a cortical cyst with 5\*6 mm width in the right kidney. Extracorporeal shock wave lithotripsy was done for him and fever progress was observed for 4 days. He was treated with ceftriaxone and his general condition improved slightly, but his fever persisted. Kidney sonography was repeated and showed small 3-4 mm stones in both kidneys without abscess and hydronephrosis. Because of continuing fever and hematuria, with urosepsis diagnosis the patient was admitted and started on antibiotics that contain gentamicin, ciprofloxacin and ceftriaxone, but he was referred to our center because he did not respond to treatment. On admission physical examination was normal except temperature = 39.7 °C, HR = 90 min, RR = 26 min, Bp = 135/80 mmHg. Hemodynamic pattern and ECG were normal. Fever workup was done for him. Blood culture was positive for streptococci group B in first and third days after admission. Hematologic and serum chemical laboratory data are shown in table 1.

Although cardiac examination was normal, due to continuing fever and bacteremia echocardiography was done to find the source of infection of urinary system and bacteremia. Echocardiography showed normal ejection fraction

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(60%), mild AI, and vegetation on aortic valve (Figure 1). Antibiotic therapy was started and continued for 4 weeks.



**Figure 1.** Parasternal long axis view showing vegetation on noncoronary cusp

At the end of the course of medical therapy the patient was well and had shown a good response to antibiotic therapy, and thus did not need cardiac surgery. The patient was discharged when blood culture was negative and the level of ESR was decreased. In 2 years follow-up, he was well without any complications.

### Discussion

Streptococci group B is a rare cause of infective endocarditis.<sup>2</sup> However, it involves both normal valves and abnormal valves and is one of the causes

leading to high prevalence of embolic morbid native valve endocarditis.<sup>1</sup> Streptococci group B is common in pregnancy, and is one of the causes of neonatal sepsis.<sup>3</sup> It was observed in a few reports about streptococci group B infective endocarditis that in renal transplant patients and submandibular cellulitis the signs of infective endocarditis usually coexist with underlying diseases.<sup>4-6</sup> According to previous research a rare case of infective endocarditis was reported after extracorporeal shock wave lithotripsy and this case had valvular disease.<sup>7</sup>

Our case is one of the very rare presentations of infective endocarditis of streptococci group B that occurs after extracorporeal shock wave lithotripsy. The patient after lithotripsy was febrile which continued after antibiotic therapy with urosepsis diagnosis. In order to stop the fever and due to lack of response to antibiotic therapy, although the patient had native valve without any history of cardiac disease, the advanced workup was started. The vegetation on aortic valve was seen in echocardiography.

### Conclusion

Although streptococci group B is one of the rare causes of infective endocarditis, it is seen after various procedures such as lithotripsy. Streptococci group B infective endocarditis must be considered in patients who are exposed to lithotripsy and unknown origin of sepsis.

### Conflict of Interests

Authors have no conflict of interests.

**Table 1.** Hematologic and serum chemical laboratory data

Variables	Other hospital	This hospital
Hematocrit (%)	30.3	32.7
Hemoglobin (g/dl)	9.7	11.3
White blood cell count (per mm <sup>3</sup> )	6000	7000
Differential count (%)		
Neutrophils	66	82.3
Lymphocytes	32	12.3
Eosinophils	2	3.4
Basophils		2
Platelet count (per mm <sup>3</sup> )	173000	195000
Mean corpuscular volume (m <sup>3</sup> )	82.6	83
Erythrocyte sedimentation rate (mm/hr)	80	121
Prothrombin time (sec)	15	16
International normalized ratio	1.2	1.3
Sodium (mmol/liter)	126	131
Potassium (mmol/liter)	4.1	3.8
Glucose (mg/dl)	86	90
C-reactive protein	+	++

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