

## Case Report

## Cardiology: Open Access

## Acute Myocarditis as a Complication of Acute Prostatitis: Case Report

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## Abstract

**Introduction:** Myocarditis is an inflammation of cardiac muscle. Several pathogens proved to cause acute myocarditis. *E. coli* pathogen as a cause of myocarditis is rare.**Case Presentation:** We had a 28 years old male who had fever, lower urinary tract symptoms, and lower back pain three days ago. Digital rectal examination revealed enlarged prostate. The diagnosis was acute prostatitis. We started with the right antibiotics. Later, he developed acute chest pain with normal laboratory findings and imaging studies. As a result, we made the diagnosis of acute myocarditis as a complication of acute prostatitis.**Discussion:** Several pathogens proved to cause myocarditis. *E.coli* as a cause of myocarditis is rare and a few reports published. Usually, serum laboratory, ECG, and imaging studies of the heart are negative. Treating the cause of acute prostatitis will lead to recovery from myocarditis.**Conclusion:** In normal full cardiac investigations in a patient with chest pain and acute prostatitis, physicians should suspect *E.coli* sepsis as a cause of myocarditis.

## 1. Introduction

Prostatitis is a common bacterial genitourinary infection. *E. coli* and Enterococcus family bacteria are responsible for the majority of cases, with the predominant etiology being ascending infection [1]. *Escherichia coli* urosepsis is an extremely rare cause of acute myocarditis [2]. Here, we present a rare case of a male patient who developed acute chest pain after prostatitis. He diagnosed with acute myocarditis as a complication of prostatitis. Treatment led to full recovery.

## 2. Case Presentation

A 28 years old male presented to the emergency department complaining of fever, generalized malaise, joint pain, and

lower urinary tract symptoms, including urinary frequency and dysuria three days before presentation. Past medical history was unimportant except for a right femur fixation ten years ago after a motor vehicle accident.

He was sexually active with a monogamous female partner and had no previous history of urinary or sexually transmitted diseases. Vital signs were as follows: temperature 39.1 C, blood pressure 110/60 mmHg, pulse 96/min, respiratory rate 20/min. Physical examination revealed tender prostate on digital rectal examination. Other systems were normal. Laboratories are shown in Table.

Wight blood cell count	Hemoglobine	Platelets	Creatinine	CRP	Urea	Glucose	Na+	K+
22×105/ml	11×105gr/dl	300×105/mcl	1.1 mg/dl	89	41 mg/dl	85 mg/dl	142 mEq/L	4.3 mEq/L

**Table: Laboratory Findings**

Urinalysis result was important for excess weight blood cells. A specimen of urine was sent for culture and sensitivity. Abdominal and pelvis ultrasound showed prostatomegaly.

The diagnosis was acute prostatitis. Next, we admitted the patient to the urological ward. We started with the third generation of cephalosporin intravenously (ceftriaxone 1gr twice daily), levofloxacin 500mg once daily, and fluids. His blood culture was negative. Urine culture showed  $>100 \times 10^6$  cfu/L of non-O157:H7 Escherichia coli. Three days after admission, the patient suffered an acute onset of chest pain. Electrocardiogram (ECG) was normal. A high-sensitivity troponin-T (hsTNT) was found elevated on testing at 54 ng/L (reference range 0–13 ng/L). Repeat biochemistry six hours later revealed further elevation of his measured hsTNT to 112 ng/L and 303 ng/L. The patient diagnosed with non-ST elevation myocardial infarction (NSTEMI). Urgent cardiac angiography showed normal coronary arteries without a demonstrable ischemic. The diagnosis was subsequently revised to acute myocarditis rather than NSTEMI. As a result, the patient received supportive therapy for this including nonsteroidal anti-inflammatory medications. Daily monitoring of vital signs with laboratory tests was the work-up of this stage of the disease. Another four days of intravenous antibiotics revealed a good clinical improvement. He declared that the chest pain resolved completely. One week after admission, he discharged home with oral antibiotics (Ciprofloxacin 750mg once daily plus cefixime 400 mg once daily). Outpatient follow-up after three weeks showed no complaints and he declared there was no dysuria or other urinary tract symptoms. A cardiac echogram showed a normal structure with a 55% ejection fraction.

### 3. Discussion

E. coli is a common pathogen in extra-intestinal infections, particularly of the urinary tract. However, few cases of E.coli-related prostatitis with concurrent development of myocarditis have been reported in the literature [1]. Viral myocarditis pathogenesis has been extensively studied, but bacterial

myocarditis is a largely unknown disease. It is rare and the mechanisms of myocardial dysfunction have not been clarified. Several have been proposed: activation of inflammatory agents, direct bacterial invasion, bacterial toxins and immune response [2]. It has long been established that septicemia may result in myocardial dysfunction, but the link between this process and the devez speculative [3].

In this case report, we had a male patient who had acute prostatitis complicated by acute myocarditis. Clinical presentation and full laboratory evaluation did not reach definite diagnosis. We performed Urgent cardiac angiography, which was normal. Our case was a diagnosis of exclusion.

### 4. Conclusion

Acute myocarditis is an unusual complication of acute prostatitis. Patients who have bacterial prostatitis and develop acute chest pain with normal laboratory evaluation should be suspected to be a complication of sepsis origin.

### Consent

Written informed consent was obtained from the patient's parents for publication of this case report and accompanying images, in line with local ethical approval requirements. No other requirements were stipulated.

### References

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