

Intracardiac Infection at the Tip of Hemodialysis Catheter: Life Threatening Morbidity

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ARTICLE INFO

Article type:
Case Report

Article history:
Received: 30 Oct 2016
Revised: 08 Dec 2016
Accepted: 1 Feb 2017

Keywords:
Intracardiac Infection
Cardiac Surgery
Chronic Renal Failure

ABSTRACT

Endocarditis and intracardiac infection have been increased recently especially in dialysis dependent renal failure patients. This is usually intractable infection to broad spectrum Antibiotic therapy and in most cases surgical intervention was necessary. We have presented 45 years old man with intracardiac infection at the tip of dialysis catheter that after catheter removal intracardiac infection was removed.

► Please cite this paper as:

Hoseinikhah H, Sheibani Sh, Imani N. Intracardiac Infection at the Tip of Hemodialysis Catheter: Life Threatening Morbidity. *J Cardiothorac Med.* 2017; 5(1): 547-549.

Introduction

Patients with end-stage renal disease (ESRD) usually have to use indwelling Catheter for dialysis access. Intracardiac infection and Endocarditis especially atrial infected mass and Endocarditis of Tricuspid Valve is a known complication (1, 2). This Infection is resistant to various type of Antibiotic and tend to destruct of Tricuspid Valve structure that can cause severe Regurgitation of Tricuspid Valve (1-12). Catheter-related infection usually was seen on the tip of the Dialysis catheter, adjacent to the atrial wall or propagating from the superior vena cava at the course of catheter. With chronic use of it for Dialysis purpose potential for infection increased significantly. Timely diagnosis and prompt treatment is essential although with perfect diagnosis and treatment this infection have a high mortality and morbidity (12). The purpose of this study was presentation of important morbidity of

indwelling Catheter for hemodialysis usage.

Case Report

We present 45 years old man known case of Dialysis dependent of renal failure who suffered of 2 months of intractable fever at fist for his management complete sepsis work up was accomplished. Prolonged use of broad spectrum Antibiotic was attempted and multiple blood culture was given. Result of culture was not informative and patient was clinically ill and symptomatic despite of change of antibiotic regime from ceftriaxon and vancomycin to cefepime and imipenem with consult with infectious disease department. In more evaluation of him echocardiography examination there is hyperecho mobile mass about 2*3 cm in right Atrium cavity that exactly located at the tip of Dialysis catheter in Right Atrium cavity. (Figure 1)

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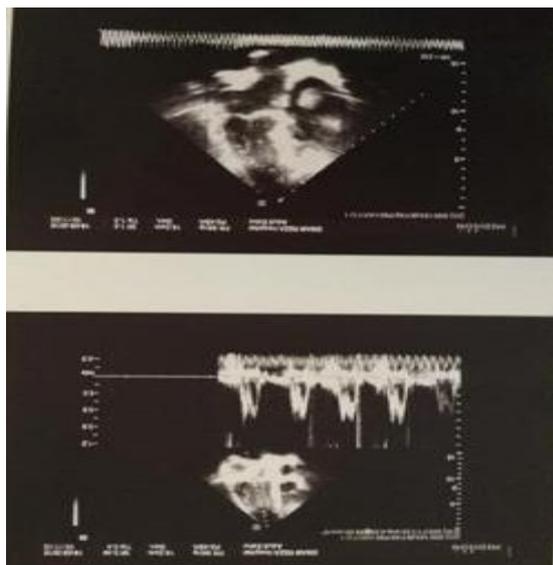


Figure 1: Echocardiographic view of mass on tip of Catheter

in assessment of Tricuspid valve there is mild Tricuspid Regurgitation.

Patient was candidate for heart surgery. In Operating room Dialysis Catheter was removed (Figure 2).



Figure 2: Infected catheter that was removed

With median sternotomy after opening pericardium, loose adhesion was noticed in pericardial cavity and around the heart. after release of adhesions and Heparin administration Aortic and bicaval cannulation was inserted and after appropriate ACT, Cardiopulmonary Bypass was initiated. with beating Heart and without hypothermia right Atrium was opened. in evaluation of RA an infected fragile hyper mobile mass was noticed at the site of removed Dialysis Catheter about 3-4 cm below of junction of SVC to RA. (Figure 3) mass was completely removed. Tricuspid valve was examined and was intact and without significant regurgitation after closure of RA weaning of him from Cardiopulmonary Bypass was easily done. Postoperative course of him was uneventful and

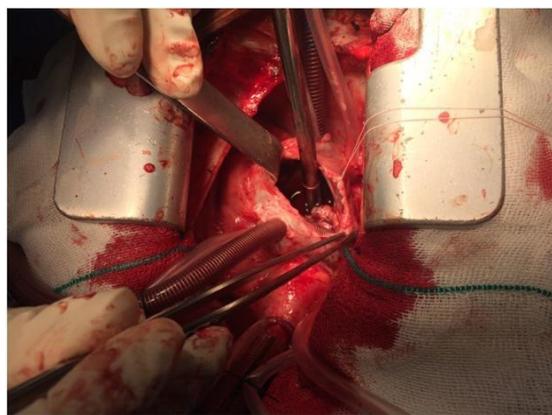


Figure 3: Echocardiographic view of mass on tip of Catheter

patient was discharged from hospital in good clinical condition and oral antibiotic regimen for 4weeks later.

Discussion

Prevalence of Endocarditis and other cardiac infection have been increased recently. many infection like tuberculosis and Brucellosis can cause such disease. today IV Drug abuser have a significant percentage of cardiac infection and Endocarditis. patients with chronic indwelling catheter have a great potential for right side cardiac valve infections. Dialysis dependent chronic renal failure have tendency for intractable cardiac infection from Dialysis catheter inserted in central venous system. systemic infections tend to involve left side of heart especially mitral valve and Aortic valve. in patient with indwelling catheter especially in dialysis dependent patients, right side heart involvement are more common. Tricuspid valve Endocarditis and other right atrium infection was seen frequently.

Although most cases of infectious Endocarditis can be treated only with with 4-6 weeks of appropriate Antibiotic but there are some absolute indications for surgery intervention. no response to antibiotic therapy and large and mobile vegetation (larger than 10 mm) septic embolization valve destruction with sever regurgitation are clear indications for surgery.

Endocarditis in dialysis dependent chronic renal failure are more resistant until the catheter was placed in right Atrium. Tricuspid valve Endocarditis can also seen coexisting with Right Atrium infection in this group of patients. Successful management for patients with intracardiac infection consist of complete sepsis work up with sampling of blood culture and initiating of empirical antibiotic. in Dialysis dependent patients indwelling catheter should be removed. Indication for surgery were same like other case of Endocarditis.

Acknowledgments

None

Conflict of Interest

The authors declare no conflict of interest.

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