What is the optimum management of Pacemaker Lead Endocarditis with multiple vegetations?

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Introduction:

- Infective endocarditis (IE) remains a dangerous condition with unchanging incidence and a mortality approaching 30% at 1 year
Introduction:

• Severe infection of intracardiac pacemaker leads can result in Infective Endocarditis with serious affection of the Tricuspid Valve.

• While some cases may respond to medical treatment, the majority of them may need surgical intervention.
Our study:

• Over the period between October 2010 and February 2014.

• 18 patients with infected intracardiac pacemaker leads were referred to our center
Our study:

- patients suffered from:
  - fever and constitutional symptoms of endocarditis
- diagnosis was confirmed with
  - echocardiography
  - blood culture
- presence of multiple vegetations around the pacemaker lead
- affection of Tricuspid valve.
Results:

- One patient responded well to medical treatment, his vegetation subsided over 12 weeks and did not need surgery.
Results:

• 17 patients were subjected to:
  • surgical removal of the intracardiac lead
  • removal of all vegetations
  • repair of Tricuspid valve when needed.
Results:

- The generators were replaced in all cases.
  - 3 of them were implanted in the rectus sheath
  - 14 were implanted in the opposite subpectoral region
Results:

- All cases were done with the use of cardiopulmonary bypass
  - 14 cases on beating heart
  - 3 cases needed cardioplegia for repair of extensive affection of tricuspid valve.

- Tricuspid valve was successfully repaired in all cases with very satisfactory outcome.

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Results:

• We lost two patients (11%) in this series due to fulminant endocarditis and multiple organ failure

• The overall morbidity:
  • was prolonged ventilation in one case (6%)
  • superficial wound infection in 2 cases (12%)
  • postoperative fever in 3 case (18%)
Result:

Surgical Mortality

- 88%
- 12%

Mortality
Results:

Post operative complications

- Prolonged ventilation: 6%
- Superficial wound infection: 12%
- Fever: 17%
- No complications: 65%
Results:
Results:
Plan of management

Pacemaker wire Infection with vegetations

Proper antibiotics according to C/S + follow-up TEE, TLC & clinical

Improvement

NO Improvement

Refer to Surgery
Plan of management

Surgical Management

Using CPB in all patients

Isolated Pacemaker surgery +/- tricuspid repair

Combined Pacemaker +/- other valve or CABG

Beating Heart

Cardioplegia

Insertion of epicardial lead + Replace generator
Conclusion:

• Optimum management of infected intracardiac pacemaker lead with affection of tricuspid valve and multiple vegetations will be surgical removal and replacement

• This can be done with good outcome.
Conclusion:

• The key of success is the early diagnosis and proper timing of intervention which require good coordination between infective endocarditis team.

• Pacemaker infection management is teamwork approach.
Take home message:
Thank You!