

Ecocardiochirurgia – Incontro satellite

Indicazioni alla terapia chirurgica del malfunzionamento protesico



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ACC/AHA PRACTICE GUIDELINES

ACC/AHA 2006 Guidelines for the Management of Patients With Valvular Heart Disease

A Report of the American College of Cardiology/American Heart
Association Task Force on Practice Guidelines (Writing Committee
to Revise the 1998 Guidelines for the Management of Patients
With Valvular Heart Disease)

*Developed in Collaboration With the Society of Cardiovascular Anesthesiologists
(Endorsements pending)*

Surgery for prosthetic valve endocarditis

Class I

Surgery is indicated for patients with infective endocarditis of a prosthetic valve who present with heart failure (Level of Evidence: B)

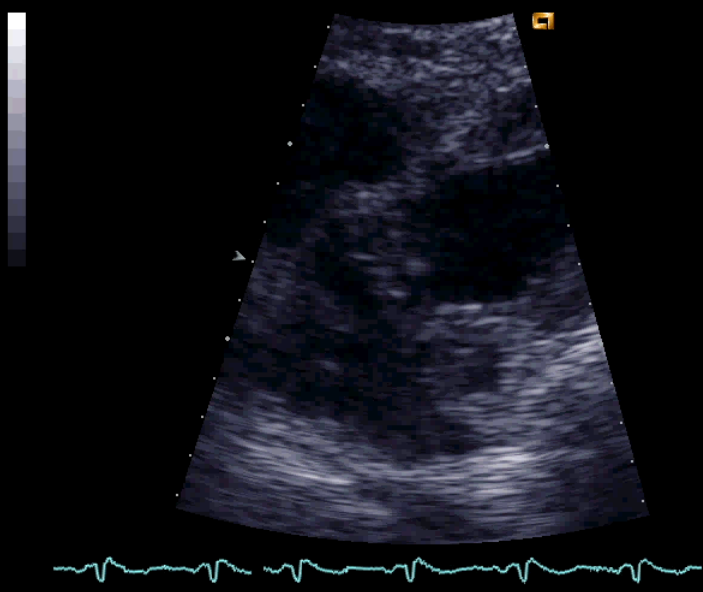
Surgery is indicated for patients with infective endocarditis of a prosthetic valve who present with dehiscence evidenced by cine fluoroscopy or echocardiography (Level of Evidence: B)

Surgery for prosthetic valve endocarditis

Class I

Surgery is indicated for patients with infective endocarditis of a prosthetic valve who present with evidence of increasing obstruction or worsening regurgitation (Level of Evidence: C)

Surgery is indicated for patients with infective endocarditis of a prosthetic valve who present with complications, for example, abscess formation (Level of Evidence: C)

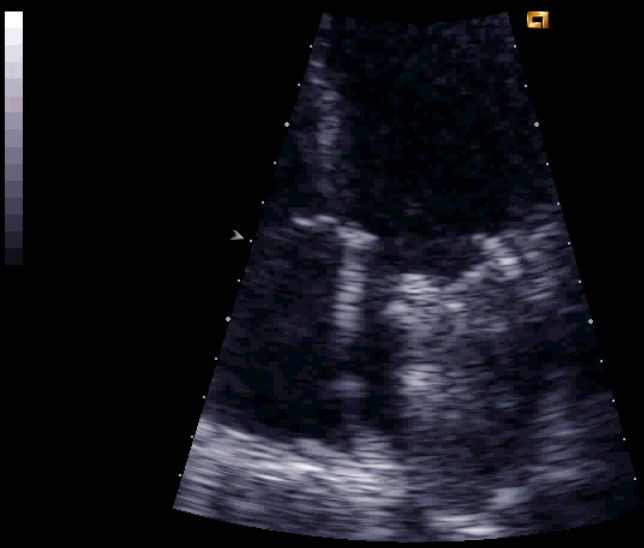


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HR= 96bpm



Exit

Res Box



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Exit

Res Box



Protesi valvolari mitraliche



SOZIO SANNINO C.: N.1
Az. Osp. Monaldi - Napoli Divisione di Cardiochirurgia

22 Aug 00

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H3.5MHz 371mm

CUORE

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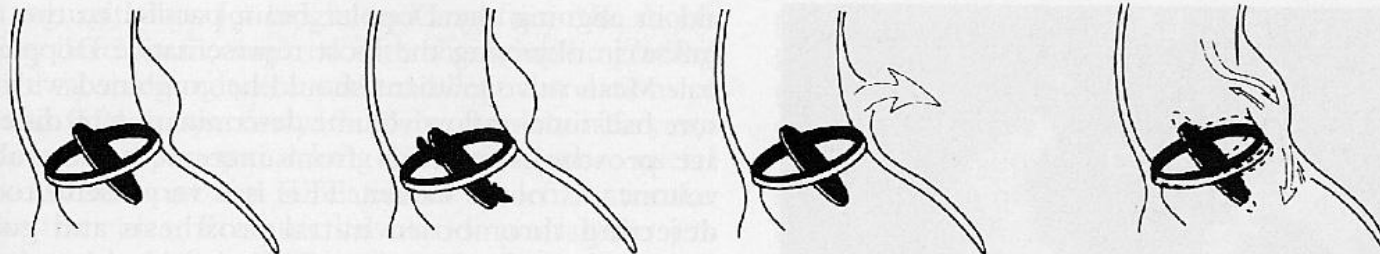
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HR=103bpm



Exit

Res Box

**Abscess**

1. Protracted sepsis
2. 1st AV block
3. Normal valve function
4. CHF may or may not be present

Abscess & Vegetation(s)

1. Protracted sepsis
2. 1st AV block
3. Valve obstruction or regurgitation
4. New or worsening CHF

Ruptured Abscess

1. Sepsis may improve
2. 1st AV block and/or incomplete RBBB
3. ↑ Forward velocities, i.e., relative stenosis
4. New or worsening CHF

Ruptured Abscess & Valve Dehiscence

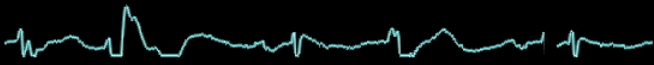
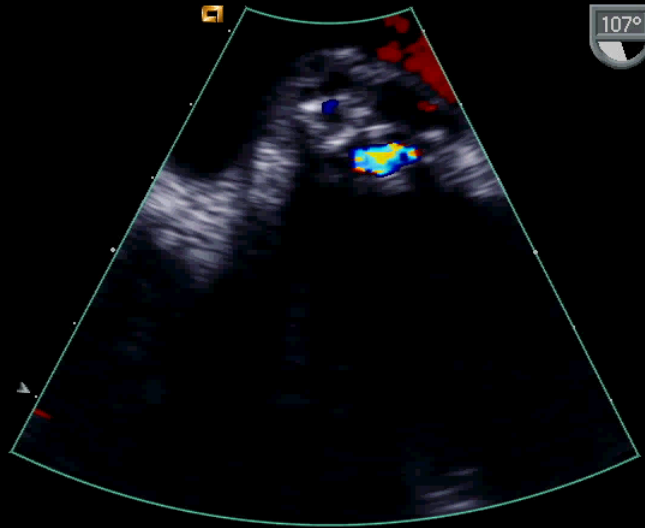
1. Sepsis may or may not improve
2. 1st or higher AV block, or incomplete RBBB, or complete BBBs
3. Severe perivalvular leak, variable valve stenosis
4. Significant worsening CHF

FIGURE 24–19. A to D, Clinical, electrocardiographic, and echocardiographic characteristics in septic complications of mechanical valves. AV, atrioventricular; CHF, congestive heart failure; RBBB, right bundle branch block.

79
79

107°

12:14:19 pm
TE-V5M 23Hz
7.0MHz 16mm
TEE
General /V
Temp TEE=37.2°C
T1/-2/ 0/VV:1
1/2 CD:3.5MHz
Quad CD = 50
Memo in corso
1:57:44
Freq Card= 81bpm

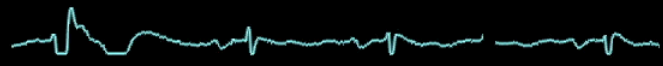
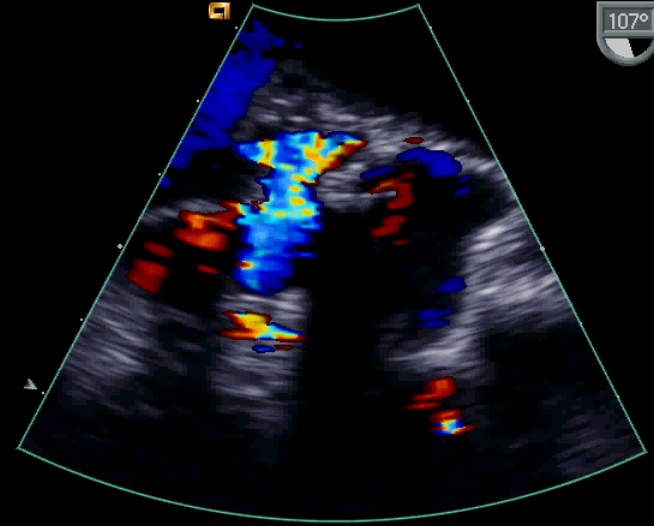


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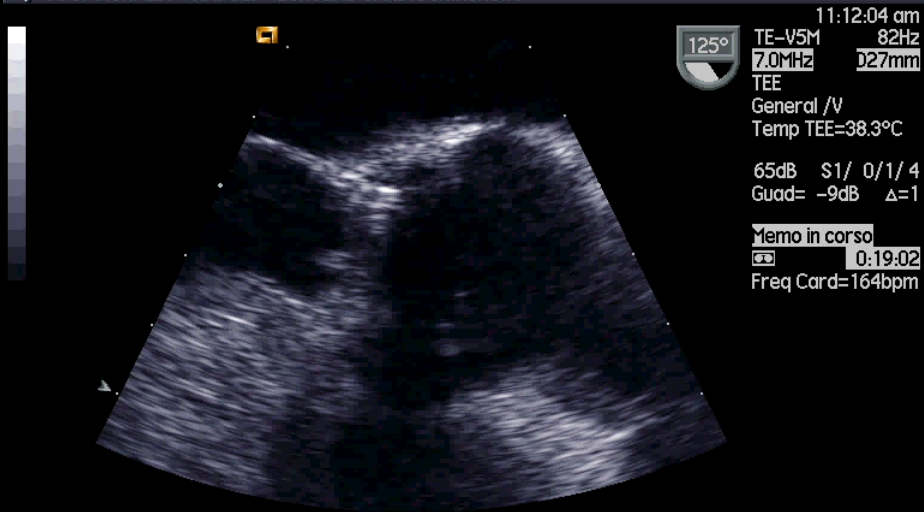
79
79

107°

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General /V
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Quad CD = 50
Memo in corso
1:58:59
Freq Card= 95bpm



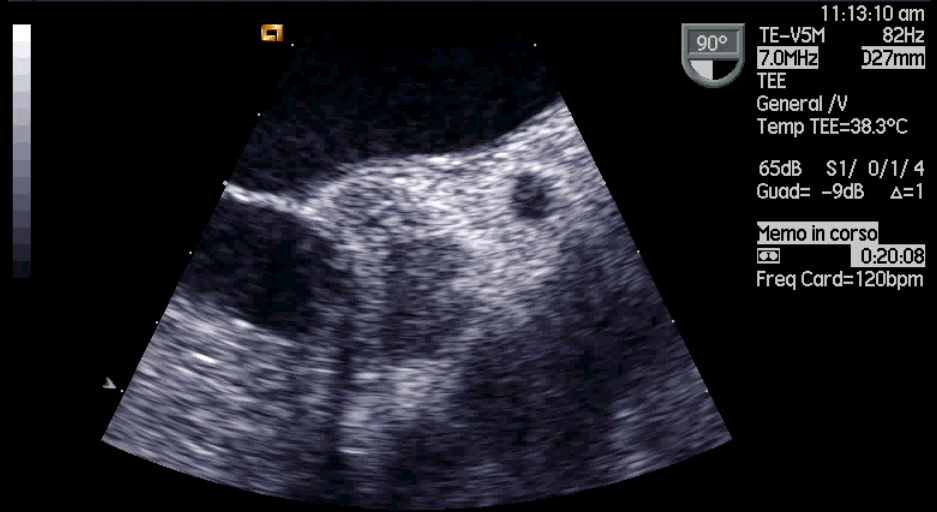
DTV/CDV CD Pan. △/○ CD Pos./Mis



Usc

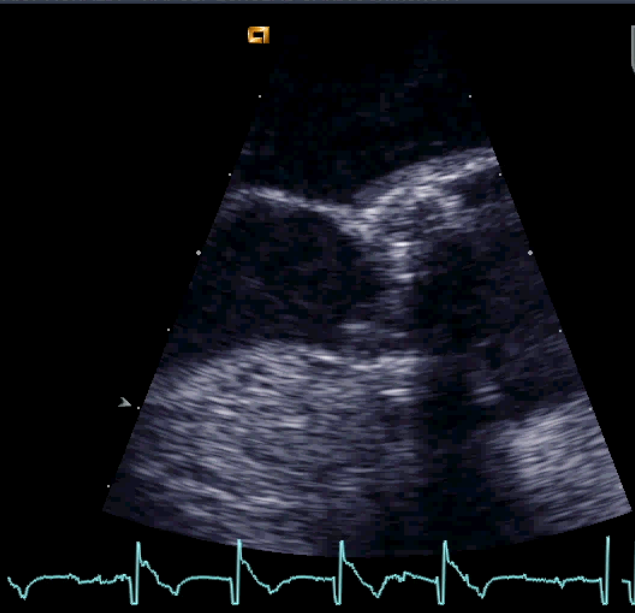
Res box

Bjork aortica impiantata negli anni 70,
febbre dopo int. colecistectomia
esame eseguito ad 1 mese dall'int.

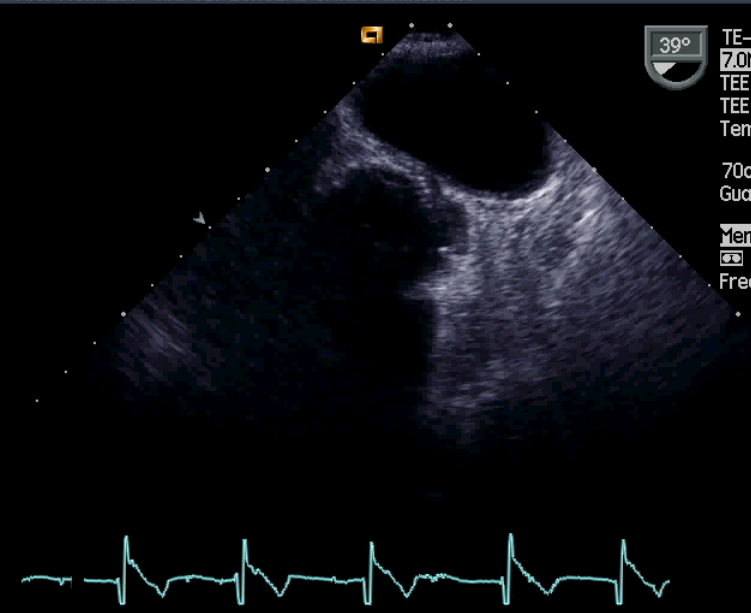
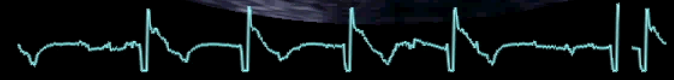


Usc

Res box



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TEE /V
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Guad= -1dB Δ=1
Memo in corso
0:25:21
Freq Card=105bpm

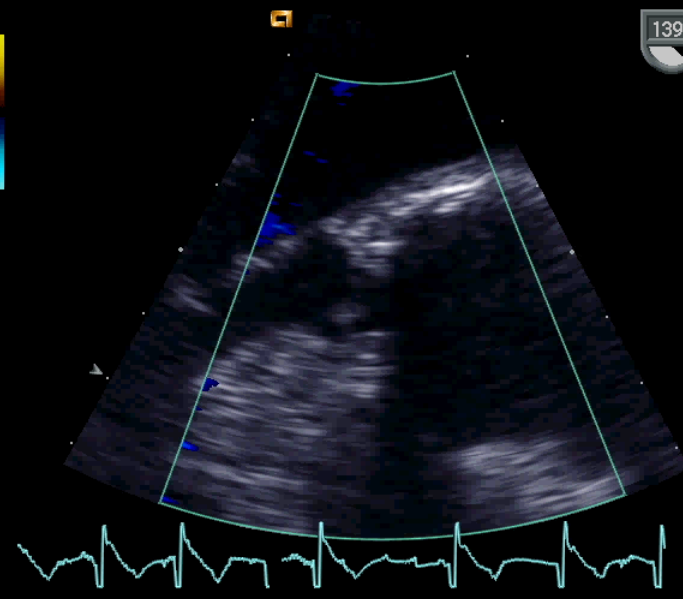


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TEE /V
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Guad= -7dB Δ=1
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Freq Card= 85bpm

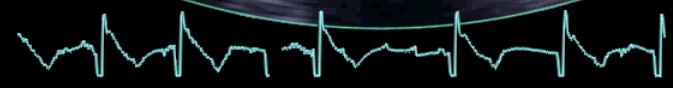


Usc

Res box



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7.0MHz 018mm
TEE
TEE /V
Temp TEE=38.0°C
T1/-1/ 1/VV:1
1/2 CD:3.5MHz
Guad CD = 50
Memo in corso
0:24:07
Freq Card=126bpm



Surgery for prosthetic valve endocarditis

Class IIa

Surgery is reasonable for patients with infective endocarditis of a prosthetic valve who present with evidence of persistent bacteremia or recurrent emboli despite appropriate antibiotic treatment (Level of Evidence: C)

Surgery is reasonable for patients with infective endocarditis of a prosthetic valve who present with relapsing infection (Level of Evidence: C)

Surgery for prosthetic valve endocarditis

Class III

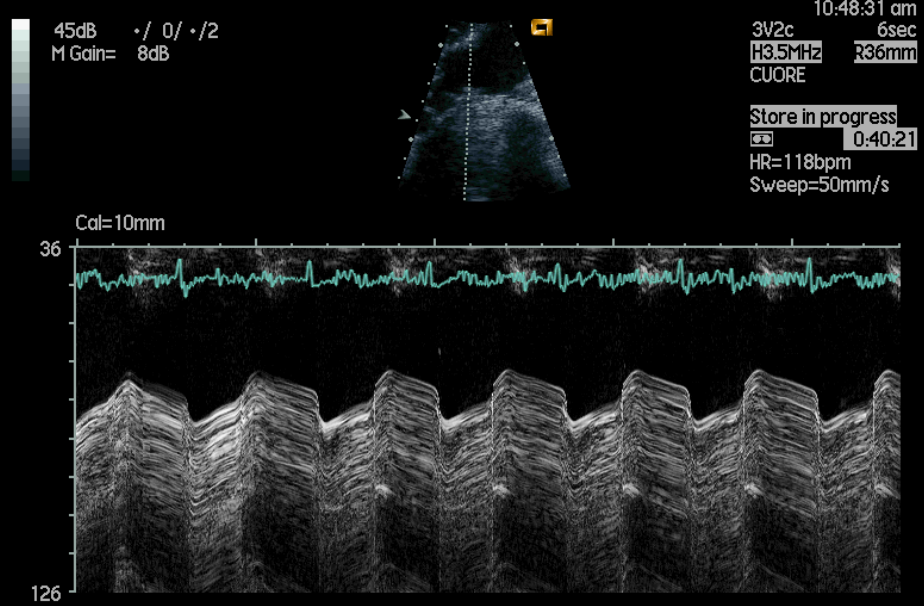
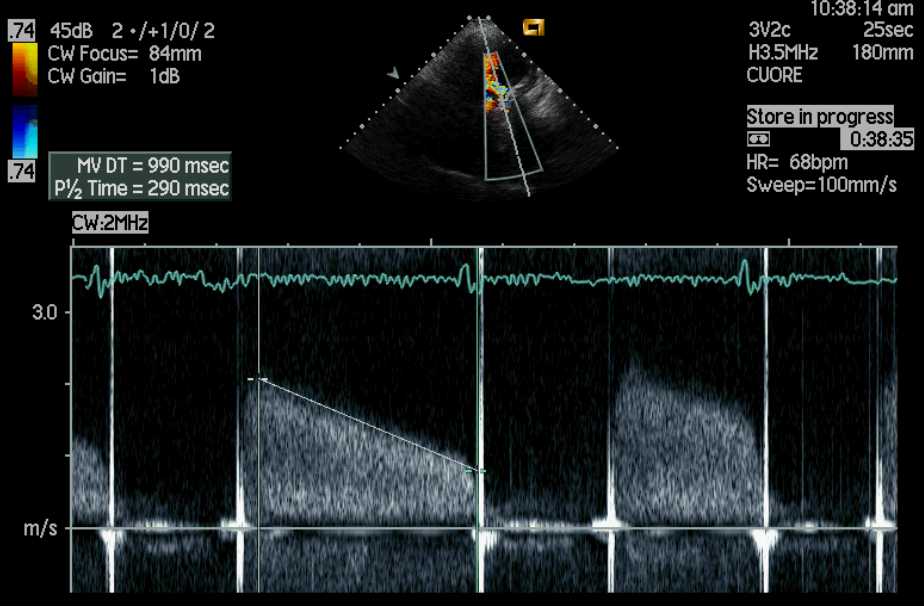
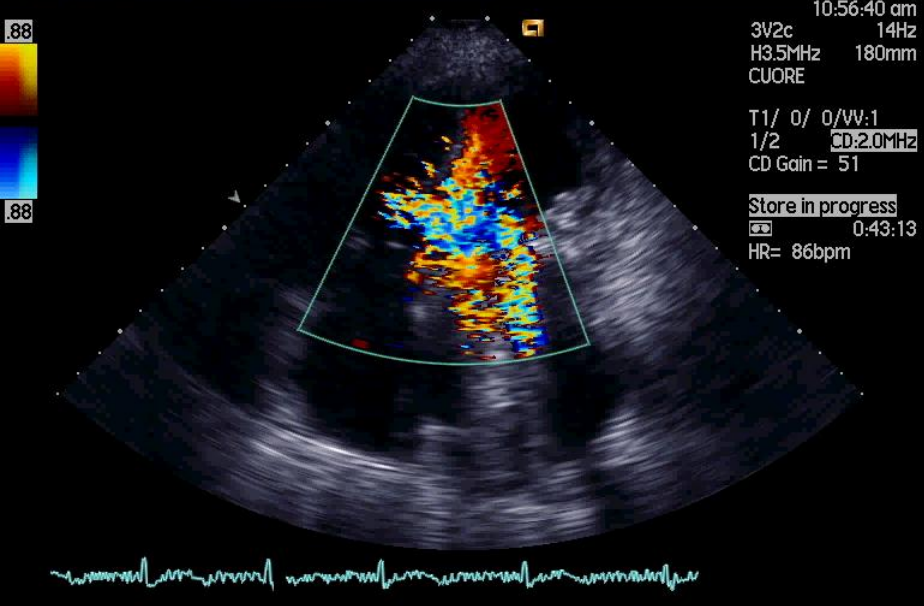
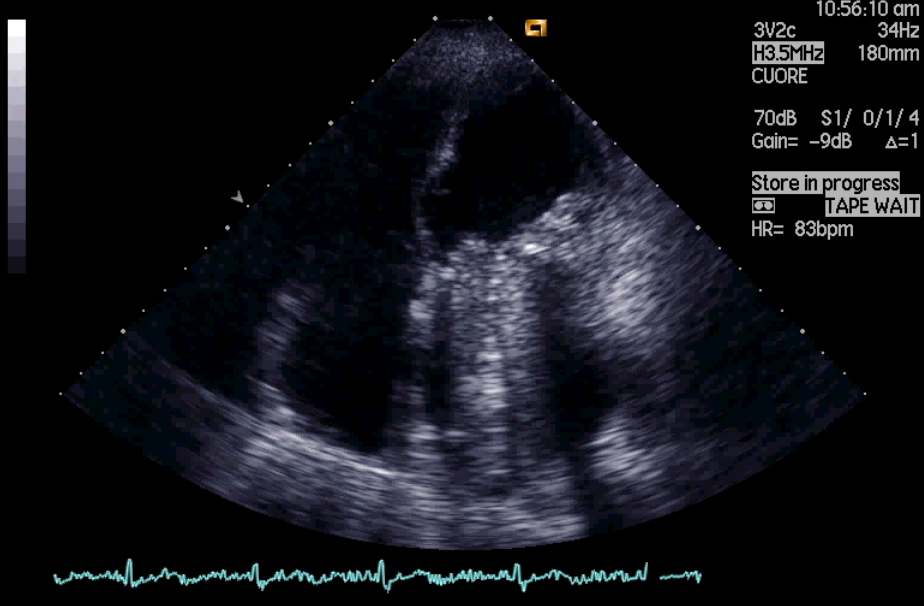
Routine surgery is not indicated for patients with uncomplicated infective endocarditis of a prosthetic valve caused by first infection with a sensitive organism (Level of Evidence: C)

Thrombosis of prosthetic heart valves

Class IIa

Emergency operation is reasonable for patients with a thrombosed left-sided prosthetic valve and NYHA functional class III-IV symptoms (Level of Evidence: C)

Emergency operation is reasonable for patients with a thrombosed left-sided prosthetic valve and a large clot burden (Level of Evidence: C)





TUOZZO C.: N. 10
Cardiac Reports

VALVE STENOSIS

21 Mar 00
10:26 am

BSA 1.73 m² Ht. 160.0 cm Wt. 70.000 kg Age 60 BP

Aortic Valve

Aortic Doppler

AoV Vmax	1.65	m/sec	AoV Pk Grad	10.8	mmHg
AoV VTI	0.227	m	AoV Mn Grad	6.1	mmHg
AoV AT	53	msec	AoV AT/ET	0.27	
AoV ET	200	msec			
SBP, cuff		mmHg	LV sys Press		mmHg

Mitral Valve

MV Doppler

MV VTI, leaflet tips	0.830	m	MV Mn Grad	10.8	mmHg
			MV P _{1/2} T	283	msec
			MV Area, P _{1/2} T	0.78	cm ²
			MV DT	976	msec

Mitral Valve

MV Continuity Equation

MV VTI, leaflet tips	0.830	m	MV Area	0.71	cm ²
			MV Area/BSA	0.41	cm ² /m ²
Site 2 VTI	0.192	m			
Site 2 Diam	1.98	cm			
Site 2 Area	3.08	cm ²			

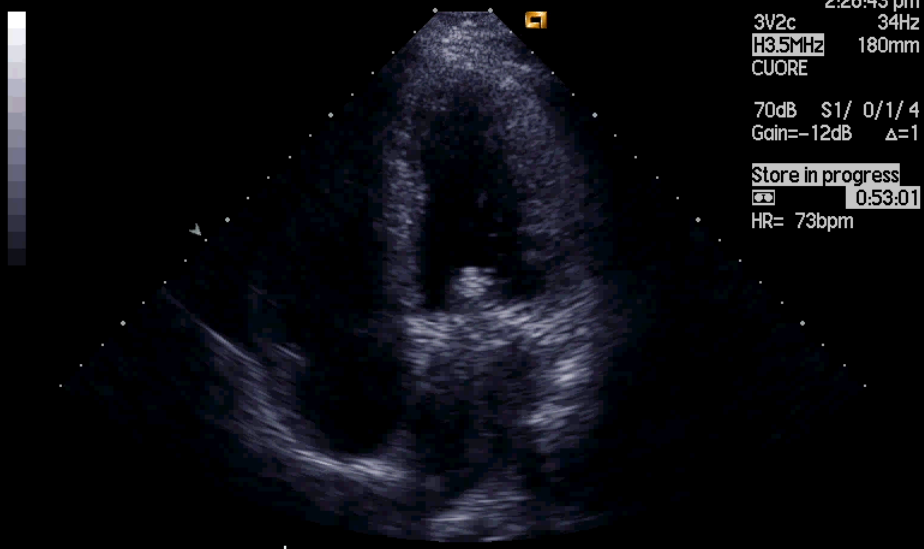
Page Up

Page Down

Image

Expand





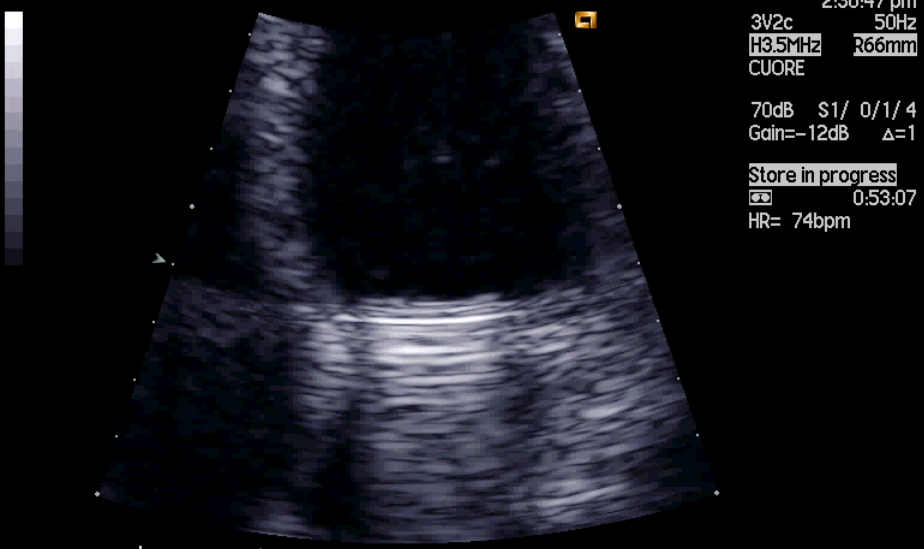
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H3.5MHz 180mm
CUORE

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Gain=-12dB Δ=1

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HR= 73bpm



Speed ↑ Speed ↓ Normal Run/Stop



2:30:47 pm
3V2c 50Hz
H3.5MHz R66mm
CUORE

70dB S1/ 0/1/ 4
Gain=-12dB Δ=1

Store in progress
0:53:07
HR= 74bpm



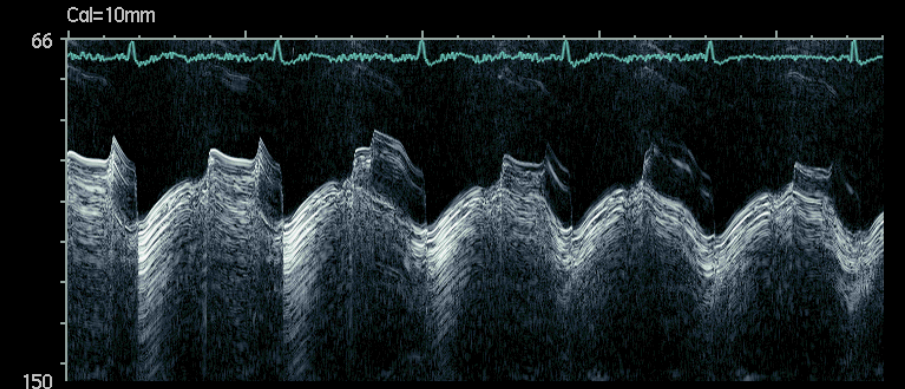
Speed ↑ Speed ↓ Normal Run/Stop



45dB · / 0 / · / 2
M Gain= 11dB

2:16:13 pm
3V2c 18sec
H3.5MHz R66mm
CUORE

Store in progress
0:50:39
HR= 74bpm
Sweep=50mm/s



1-COOLBLUE Grey Scale

Protesi valvolari mitraliche



Protesi valvolari mitraliche



Thrombosis of prosthetic heart valves

Class IIa

Fibrinolytic therapy is reasonable for thrombosed right-sided prosthetic heart valves with NYHA class III-IV symptoms or a large clot burden (Level of Evidence: C)

Thrombosis of prosthetic heart valves

Class IIb

Fibrinolytic therapy may be considered as a first-line therapy for patients with a thrombosed left-sided prosthetic valve, NYHA functional class I-II symptoms, and a small clot burden (Level of Evidence: B)

Fibrinolytic therapy may be considered as a first-line therapy for patients with a thrombosed left-sided prosthetic valve, NYHA functional class III-IV symptoms, and a small clot burden if surgery is high risk or not available (Level of Evidence: B)

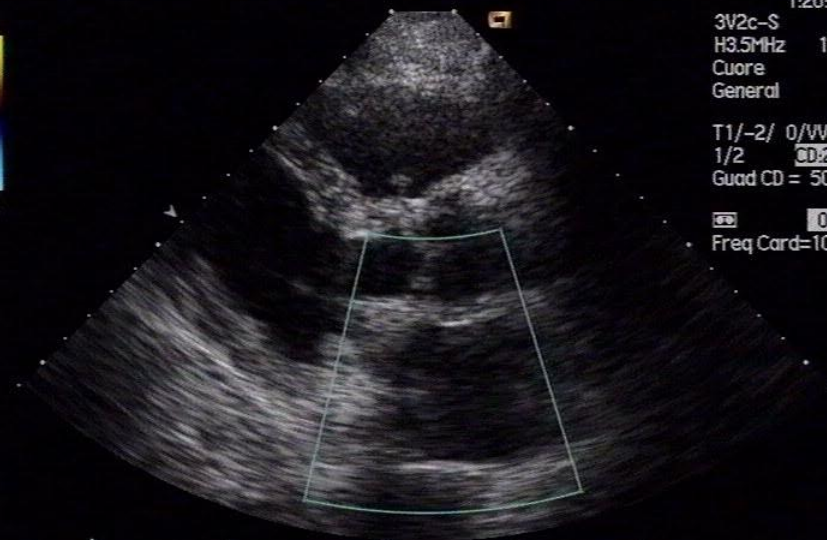
- Calcoli Card
VM Stenosi
- VM Area, planing
 - VM Diam, A/P
 - VM Diam M/L
 - Continuità---
 - Sito 2 Diam
 - Sito 2 IVT
 - VM IVT, punte lembi
- Freq Card= 89bpm



Her Dec hoy



1:20:52 pm
3V2c-S 19Hz
H3.5MHz 160mm
Cuore
General
T1/-2/ 0/W:1
1/2 **00:210MHz**
Quad CD = 50
0:05:38
Freq Card=100bpm



Thrombosis of prosthetic heart valves

Class IIb

Fibrinolytic therapy may be considered for patients with an obstructed, thrombosed left-sided prosthetic valve who have NYHA functional class II-IV symptoms and a large clot burden if emergency surgery is high risk or not available (Level of Evidence: C)

Intravenous UFH as an alternative to fibrinolytic therapy may be considered for patients with a thrombosed valve who are in NYHA functional class I-II and have a small clot burden (Level of Evidence: C)

Thrombosis of prosthetic heart valves

symptoms. If fibrinolytic therapy is successful, it should be followed by intravenous UFH until warfarin achieves an INR of 3.0 to 4.0 for aortic prosthetic valves and 3.5 to 4.5 for mitral prosthetic valves. If partially successful, fibrinolytic therapy may be followed by a combination of subcutaneous UFH twice daily (to achieve an aPTT of 55 to 80 s) plus warfarin (INR 2.5 to 3.5) for a 3-month period (985).

Thrombosis of prosthetic heart valves

Patients with small thrombi who receive intravenous UFH as first-line therapy and who do not respond successfully may receive a trial of continuous-infusion fibrinolytic therapy. If fibrinolytic therapy is unsuccessful or there is an increased risk associated with fibrinolytic therapy, reoperation should be considered. An alternative in patients who remain hemodynamically stable is to convert intravenous UFH to combined therapy with subcutaneous UFH (twice daily to an aPTT of 55 to 80 s) and warfarin (INR 2.5 to 3.5) for 1 to 3 months on an outpatient basis to allow for endogenous fibrinolysis (985). If intravenous UFH, fibrinolytic therapy, combined UFH/fibrinolytic therapy, or combined UFH/warfarin is successful, warfarin doses should be increased so that INR is between 3.0 and 4.0 (approximately 3.5) for prosthetic aortic valves and between 3.5 and 4.5 (approximately 4.0) for prosthetic MVs. These patients should also receive low-dose aspirin.

Reoperation to replace a prosthetic valve

Reoperation to replace a prosthetic heart valve is a serious clinical event. It is usually required for moderate to severe prosthetic dysfunction (structural and nonstructural), dehiscence, and prosthetic endocarditis. Reoperation may also be needed for recurrent thromboembolism, severe intravascular hemolysis, severe recurrent bleeding from anticoagulant therapy, and thrombosed prosthetic valves. In a patient with a small aortic annulus, valve prosthesis-patient mismatch may occur after AVR (856,989–992,994,995), especially if a stented bioprosthesis is used. If a patient with AS does not improve clinically after AVR, prosthetic valve function should be evaluated. In selected situations, repeat AVR to replace a malfunctioning prosthesis may be necessary.

Reoperation to replace a prosthetic valve

The patient who is in stable condition without prosthetic valve endocarditis under many circumstances undergoes reoperation with only slightly greater risk than that accompanying the initial surgery. For the patient with catastrophic prosthetic valvular dysfunction, surgery is clearly indicated and urgent. The patient without endocarditis or severe prosthetic valve dysfunction requires careful hemodynamic evaluation, and the decision about reoperation should then be based on hemodynamic abnormalities, symptoms, ventricular function, and current knowledge of the natural history of the particular prosthesis.