



Prosthetic valve IE with CV stroke

What to do ?!

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Prosthetic valve IE - Facts



- The most common type of IE is **TWO TYPES**
- Affects 1-6% of patients with prosthetic valves.

Early PVE

- Onset within 60 days after surgery.
- Mostly nosocomial related.
- Predominantly caused by Staph. Sp. especially S.epidermidis

Late PVE

- Onset thereafter.
- Mostly community related.
- Similar causative organisms with NVE with predominance of Strep. sp.

Neurological sequelae

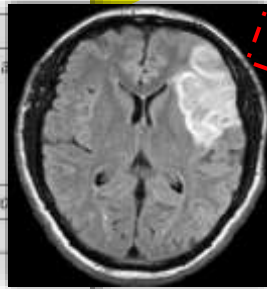


Risk Factors
Vegetation size >10 mm or >13 mm

Clinically manifest stroke = **Subclinical embolic lesions**



Vegetation mobility
Infective agent: Staphylococcus
Infective agent: Streptococcus
Infective agent: fungal
Location: anterior mitral valve > aortic valve
Prior history of embolism



THE CHALLENGE

Circulation

AHA/ACC GUIDELINE

2014 AHA/ACC Guideline 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

↓ ↓

Man

Class IIa

1. It is reasonable to temporarily discontinue anticoagulation in patients with IE who develop central nervous system symptoms compatible with embolism or stroke regardless of the other indications for anticoagulation (714-719). (Level of Evidence: B)

Valvular heart disease
Original article

BMJ Journals
Heart

Early versus late surgical intervention or medical management for infective endocarditis: a systematic review and meta-analysis

Mahesh Anantha Narayanan¹, Toufik Mahfood Haddad¹, Andre C. Kalil², Arun Kanmanthareddy³, Rakesh M. Sun⁴, George Mansour¹, Christopher J. Destache⁵, Janani Baskaran⁶, Aryan N. Mooss⁷, Tanmay V. Chitambar⁸, Lee Morrow⁷, Renuka Vivekanandan⁸


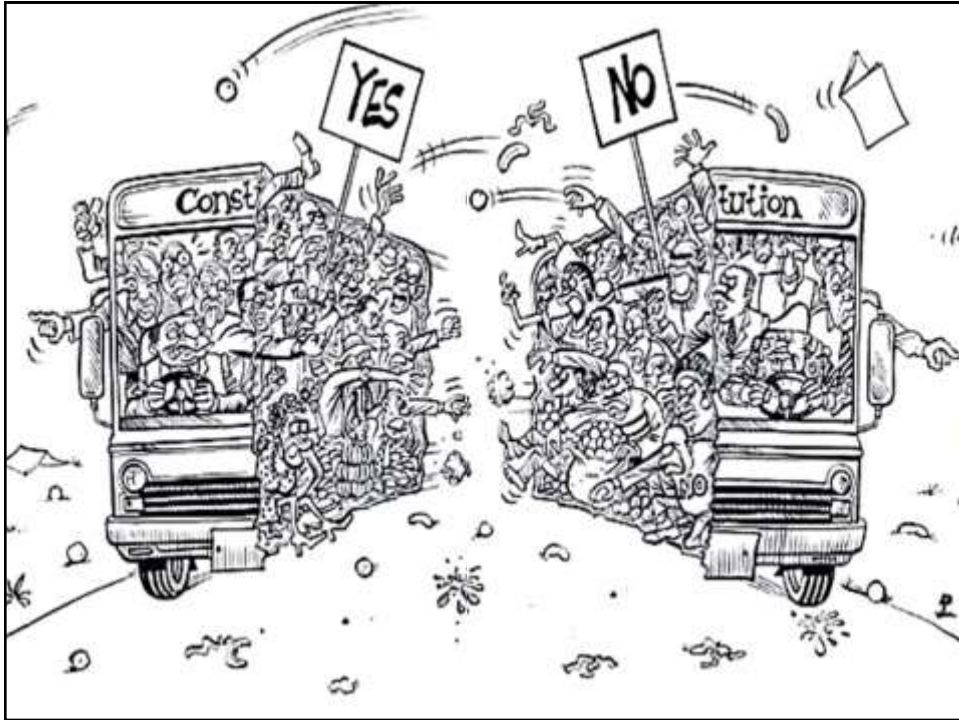
2016

another became comatose from midbrain hemorrhage immediately after surgery. The four

Conclusion The results of our meta-analysis suggest that early surgical intervention is associated with significantly **lower risk of mortality** in patients with infective endocarditis.

heart surgery. (Stroke. 2016;47:1505-1510)

Odds ratio **Higher mortality !!** 1.9% (95% CI 0.88-4.1) P value < 0.0001



European Heart Journal (2015) 36, 3075–3111
doi:10.1093/eurheartj/ehv319

ESC GUIDELINES

2015 ESC Guidelines for the Management of Infective Endocarditis

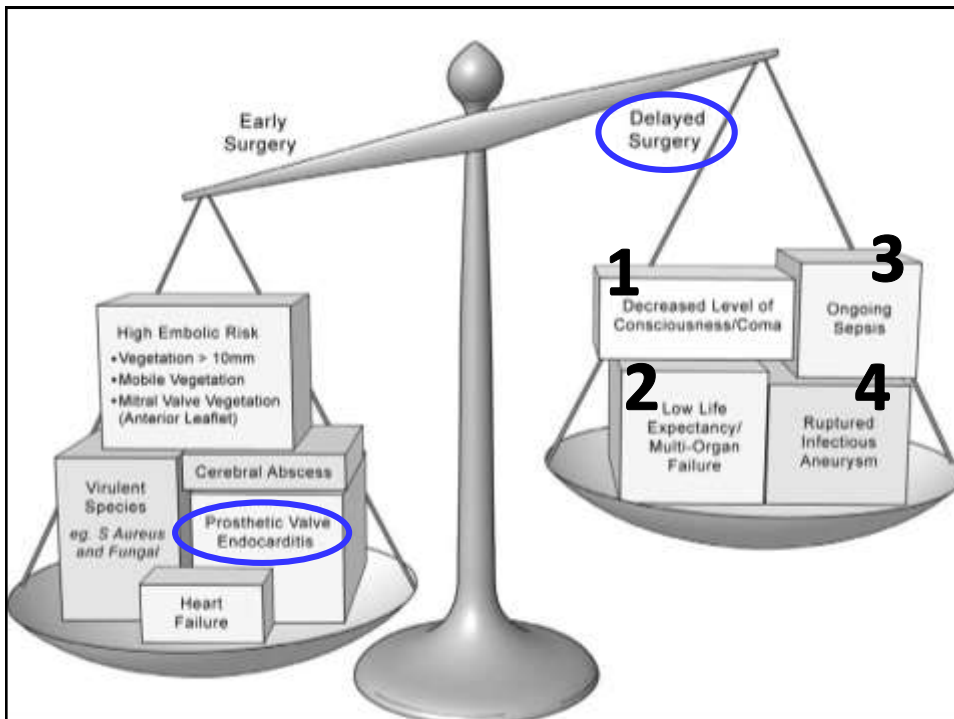
Circulation

AHA SCIENTIFIC STATEMENT

Infective Endocarditis: Pathogenesis, Pathophysiology, Microbiology, and Management of Complications: A Scientific Statement for Health-Care Professionals from the American Heart Association

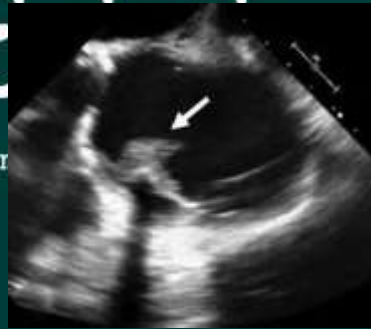
2016

Guideline	Year	Timing of Surgery		
		Silent Embolism/TIA	Ischemic Stroke	Hemorrhagic Stroke
AHA	2015	No delay (class I; LOE B)	No delay if neurological damage is not severe (class I; LOE B) At least 4 wk for major ischemic stroke (class IIa; LOE B)	At least 4 wk (class IIa; LOE B)
ESC	2015	No delay (class I; LOE B)	No delay for heart failure, uncontrolled infection, abscess, persistent high embolic risk in absence of coma (class IIa; LOE B)	>1 mo (class IIa; LOE B)

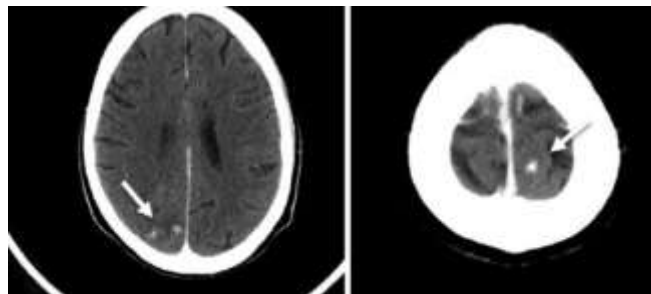


Case presentation

- Female patient, 39 years old.
- AVR 1 year ago.
- Treated for fungal PVE (Asprigellus sp.) 6 months ago.
- Presenting with recurrent endocarditis with large vegetations over the prosthetic valve.



- She embolized to lower extremity requiring urgent embolectomy.
- Two days later, she developed dysphasia & dysarthria.
- Brain CT scan showed multiple 6mm – 7mm infarcts with no hemorrhage.



The risk of recurrent embolization deemed very high, justifying urgent cardiac surgery despite a perceived risk of "neurological exacerbation".

REDO SURGERY?



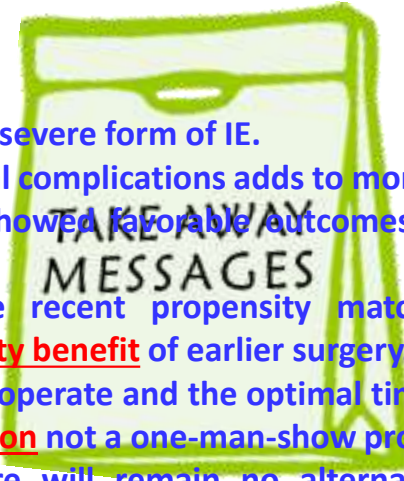
It's not a single opinion, it's a teamwork
 • The endocarditis team agreed upon **urgency and necessity** of the operation in this case.

• Intraoperatively, large vegetations were found over the prosthetic valve.

- Debridement of the root was performed
 - The patient received anti-fungal therapy
 - The possibility of redo surgery was discussed
- After a stroke, surgery indicated for HF, uncontrolled infection, abscess, or persistent high embolic risk should be considered **without any delay** as long as coma is absent and the presence of cerebral haemorrhage has been excluded by cranial CT or MRI

IIa

B



- PVE is the most severe form of IE.
- Any neurological complications adds to mortality risk.
- Older studies showed favorable outcomes with delayed intervention !!
- However, more recent propensity matched evidence showed **mortality benefit** of earlier surgery.
- The decision to operate and the optimal timing of surgery is a **TEAM decision** not a one-man-show process.
- Above all, there will remain no alternative to sound clinical judgment.

thank you!