VII CONGRESO
SEICAV
Sociedad Española
de Infecciones
Cardiovasculares
SEVILLA · 16 Y 17 DE NOVIEMBRE DE 2018

El Equipo de Endocarditis

Carlos A. Mestres FETCS

Senior Consultant
Department of Cardiovascular Surgery
University Hospital Zürich (Switzerland)

Extraordinary Professor
University of the Free State
Bloemfontein (South Africa)

Conflicto de Intereses: NINGUNO

12:30-13:30h Symposium: El equipo de endocarditis
Moderador: JM Miró . Servicio de Enf Infecciosas. Hospital Clinic, Barcelona

12:30 - 12:50h Organización del equipo. Carlos Mestres, Dpto Cirugía Cardiaca, HU Zurich, Suiza.
12:50 - 13:30h Caso clínico con discusión por expertos: Juan Ambrosioni, Infectólogo, Carles Falces, Cardiólogo, Eduard Quintana, Cirujano cardiaco. Equipo de endocarditis del H Clinic de Barcelona.

13:30-14:00h Revisión de la literatura. Lo mejor del año en infecciones cardiovasculares. Juan Gálvez. U de Enfermeddes Infecciosas, Microbiología Clinica y M preventiva, HUV Macarena, Sevilla.

14:00-14:30h Conferencia. Historia del GAMES y retos futuros. Emilio Bouza. HU Gregorio Marañón, Madrid.

14:30h Clausura.

Esto es una charla resumen de SEICAV 2019

Viernes 16

10:10-10:30h Nuevos abordajes quirúrgicos.Jacobo Silva. H. Central de Asturias. Oviedo.

10:50-11:10h Caso Clínico 2.Endocarditis protésica por Staphylococcusaureus tratada con antibióticos novedosos. Carmen Hidalgo. H. Virgen de las Nieves. Granada.

12:30-12:50h Endocarditis por S tigurinus. Miguel Ángel Goenaga.H.Donosti. San Sebastián.
12:50-13:10h Endocarditis en pacientes VIH. Miguel Ángel Goenaga.H.Donosti. San Sebastián.
13:10-13:30h Endocarditis por Aspergillus. Maricela Valerio. H. Gregorio Marañón. Madrid.
13:30-13:50h Endocarditis en pacientes con indicación quirúrgica no operados. Antonio Ramos. H. Puerta de Hierro. Madrid.

18:45-19:00h Resultado después del alta: seguimiento y pronóstico a largo plazo de la Endocarditis Infecciosa en España. Martha Kestler. H. Gregorio Marañón. Madrid.

La endocarditis infecciosa es una enfermedad infrecuente asociada a tasas elevadas de morbilidad y mortalidad

Necesita un diagnóstico lo más precoz posible y un tratamiento agresivo

*** Thuny F, Grisoli D, Collart F, Habib G, Raoult D. Management of infective endocarditis: challenges and perspectives. Lancet 2012; 379:965-975.**
*** Habib G. Management of infective endocarditis. Heart 2006; 92:124-130.**

Endocarditis

El término endocarditis se refiere a una inflamación de los tejidos internos del corazón o endocardio y que puede conducir a complicaciones letales si no se trata

30-100 episodios por millón

Tleyjeh IM et al. Chest 2007; 132:1025-1035
Hoen B, Duval X. N Engl J Med 2013; 368:1425-1433

Factores predisponentes

Anomalías del endocardio

* Cardiopatías congénitas
* Enfermedad reumática
* Válvula aórtica bicúspide
* Válvula aórtica calcificada
* Prolapso valvular mitral
* Cardiomiopatía hipertrófica obstructiva

Procedimientos de cualquier tipo (*Healthcare-associated*)

Las guías de práctica clínica ESC 2009 sobre la prevención, diagnóstico y tratamiento de la EI, actualizaron el conocimiento con algunos conceptos de interés

1. Limitación de la profilaxis antibiótica a los pacientes de máximo riesgo (Muy controvertido…)

2. Endocarditis asociada al cuidado de la Salud

3. Identificación del momento óptimo para la Cirugía (?)

Downloaded from heart.bmj.com on September 2, 2013 - Published by group.bmj.com
Heart Online First, published on August 29, 2013 as 10.1136/heartjnl-2013-304354

Editorial

The infective endocarditis team: recommendations from an international working group

John Chambers,[1] Jonathan Sandoe,[2] Simon Ray,[3] Bernard Prendergast,[3] David Taggart,[4] Stephen Westaby,[4] Chris Arden,[5] Lucy Grothier,[6] Jo Wilson,[7] Brian Campbell,[8] Christa Gohlke-Bärwolf,[9] Carlos A Mestres,[10] Raphael Rosenhek,[11] Philippe Pibarot,[12] Catherine Otto[13]

angiography and PET.[24] Other experts must be available: a specialist in spinal conditions (orthopaedic surgeon or rheumatologist depending on national practice); an electrophysiologist specialising in device extraction;[25] a neurologist and neurosurgeon to advise on the management of cerebral complications; a renal physician since renal dysfunction is an important complication of IE; and a haematologist to advise on the management of anticoagulation in prosthetic valve endocarditis. Outpatient parenteral antibiotic treatment should be feasible for selected cases.[26–28]

[1]British Heart Valve Society; [2]British Infection Association; [3]British Cardiovascular Society, London, UK; [4]Society of Cardiothoracic Surgeons of Great Britain and Ireland; [5]Royal College of General Practitioners; [6]South London Stroke and Cardiovascular Network; [7]British Association of Nursing for Cardiac Care, Oxford, UK; [8]Society for Cardiological Science and Technology, London, UK; [9]Herz-Zentrum Bad Krozingen, Germany; [10]Department of Cardiovascular Surgery, Hospital Clinico, University of Barcelona, Barcelona, Spain; [11]University of Vienna, Austria; [12]Department of Medicine, Laval University, Canada; [13]Division of Cardiology, University of Washington, Seattle, Washington, USA

Correspondence to Professor J B Chambers, Cardiothoracic Centre, St Thomas' Hospital, London SE1 7EH, UK; john.chambers@gstt.nhs.uk

Chirillo F, Scotton P, Rocco F, Rigoli R, Borsatto F, Pedrocco A, De Leo A, Minniti G, Polesel E, Olivari Z.
Impact of a multidisciplinary management strategy on the outcome of patients with native valve infective endocarditis.
Am J Cardiol. 2013 Oct 15;112(8):1171-6. doi: 10.1016/j.amjcard.2013.05.060. Epub 2013 Jul 5.

El Estado Actual

Insuficiencia cardiaca	~50% de las indicaciones
Falta de control de la infección	(buscar en el bazo,…)
Embolia & Vegetaciones	(riesgo <1% despues de 1s)
Infeccion perivalvular	(10-40% NVE – 40-100% PVE)
EVP	
Fúngica	
Complicaciones neurólogicas	(Esperar y ver…)
Momento de la cirugía	(Difícil – Por definir…)

Delahaye F, Célard M, Roth O, de Gevigney G. Indications and optimal timing for surgery in infective endocarditis. Heart 2004; 90:618–620

El Problema de la Cirugía

* Heterogeneidad
* Diagnóstico difícil de EI la regla, no la excepción
* Experiencias institucionales
* Dificultades en organizar estudios controlados
* Riesgos intrínsecos debido a la variabilidad anatómica
* Proceso de decisión muy complejo
* Cooperación obligada

Guías de Práctica Clínica
Cambios en el tiempo 2009 – 2015

* Series más amplias de EI (ICE, GAMES,…)

* El primer estudio aleatorizado

* Mejoría en la Imagen

* Discrepancias en la profilaxis

* Abordaje colaborativo a través del ‘Equipo de Endocarditis’

European Heart Journal Advance Access published August 29, 2015

European Heart Journal
doi:10.1093/eurheartj/ehv319

ESC GUIDELINES

2015 ESC Guidelines for the management of infective endocarditis

The Task Force for the Management of Infective Endocarditis of the European Society of Cardiology (ESC)

Endorsed by: European Association for Cardio-Thoracic Surgery (EACTS), the European Association of Nuclear Medicine (EANM)

Authors/Task Force Members: Gilbert Habib* (Chairperson) (France), Patrizio Lancellotti* (co-Chairperson) (Belgium), Manuel J. Antunes (Portugal), Maria Grazia Bongiorni (Italy), Jean-Paul Casalta (France), Francesco Del Zotti (Italy), Raluca Dulgheru (Belgium), Gebrine El Khoury (Belgium), Paola Anna Erba[a] (Italy), Bernard Iung (France), Jose M. Miro[b] (Spain), Barbara J. Mulder (The Netherlands), Edyta Plonska-Gosciniak (Poland), Susanna Price (UK), Jolien Roos-Hesselink (The Netherlands), Ulrika Snygg-Martin (Sweden), Franck Thuny (France), Pilar Tornos Mas (Spain), Isidre Vilacosta (Spain), and Jose Luis Zamorano (Spain)

Document Reviewers: Çetin Erol (CPG Review Coordinator) (Turkey), Petros Nihoyannopoulos (CPG Review Coordinator) (UK), Victor Aboyans (France), Stefan Agewall (Norway), George Athanassopoulos (Greece), Saide Aytekin (Turkey), Werner Benzer (Austria), Héctor Bueno (Spain), Lidewij Broekhuizen (The Netherlands), Scipione Carerj (Italy), Bernard Cosyns (Belgium), Julie De Backer (Belgium), Michele De Bonis (Italy), Konstantinos Dimopoulos (UK), Erwan Donal (France), Heinz Drexel (Austria), Frank Arnold Flachskampf (Sweden), Roger Hall (UK), Sigrun Halvorsen (Norway), Bruno Hoen[b] (France), Paulus Kirchhof (UK/Germany),

Mitja Lainscak (Slovenia), Adelino F. Leite-Moreira (Portugal), Gregory Y.H. Lip (UK), Carlos A. Mestres[c] (Spain/United Arab Emirates), Massimo F. Piepoli (Italy), Prakash P. Punjabi (UK), Claudio Rapezzi (Italy), Raphael Rosenhek (Austria), Kaat Siebens (Belgium), Juan Tamargo (Spain), and David M. Walker (UK)

The disclosure forms of all experts involved in the development of these guidelines are available on the ESC website http://www.escardio.org/guidelines.

Table 9 Recommendations for referring patients to the reference centre

Recommendations	Class[a]	Level[b]	Ref.[c]
Patients with complicated IE should be evaluated and managed at an early stage in a reference centre, with immediate surgical facilities and the presence of a multidisciplinary 'Endocarditis Team', including an ID specialist, a microbiologist, a cardiologist, imaging specialists, a cardiac surgeon and, if needed, a specialist in CHD	IIa	B	12,56
For patients with uncomplicated IE managed in a non-reference centre, early and regular communication with the reference centre and, when needed, visits to the reference centre should be made	IIa	B	12,56

CHD = congenital heart disease; ID = infectious disease; IE = infective endocarditis.
[a]Class of recommendation.
[b]Level of evidence.
[c]Reference(s) supporting recommendations.

Rev Esp Cardiol. 2015;68(5):363-368

Editorial

Organization and Functioning of a Multidisciplinary Team for the Diagnosis and Treatment of Infective Endocarditis: A 30-year Perspective (1985-2014)

Organización y funcionamiento de un grupo multidisciplinario de diagnóstico y tratamiento de la endocarditis infecciosa: perspectiva de 30 años (1985–2014)

Carlos A. Mestres,[a] J. Carles Paré,[b] José M. Miró[c,*] and the Working Group on Infective Endocarditis of the *Hospital Clínic de Barcelona*[◇]

[a] *Servicio de Cirugía Cardiovascular, Hospital Clínic, Universidad de Barcelona, Barcelona, Spain*
[b] *Servicio de Cardiología, Hospital Clínic, Universidad de Barcelona, Barcelona, Spain*
[c] *Servicio de Enfermedades Infecciosas, Hospital Clínic, Universidad de Barcelona, Barcelona, Spain*

Article history:
Available online 4 February 2015

Indications for surgery	Timing[a]	Class[b]	Level[c]
1. Heart failure			
Aortic or mitral NVE or PVE with severe acute regurgitation, obstruction or fistula causing refractory pulmonary oedema or cardiogenic shock	Emergency	I	B
Aortic or mitral NVE or PVE with severe regurgitation or obstruction causing symptoms of HF or echocardiographic signs of poor haemodynamic tolerance	Urgent	I	B
2. Uncontrolled infection			
Locally uncontrolled infection (abscess, false aneurysm, fistula, enlarging vegetation)	Urgent	I	B
Infection caused by fungi or multiresistant organisms	Urgent/ elective	I	C
Persisting positive blood cultures despite appropriate antibiotic therapy and adequate control of septic metastatic foci	Urgent	IIa	B
PVE caused by staphylococci or non-HACEK gram-negative bacteria	Urgent/ elective	IIa	C
3. Prevention of embolism			
Aortic or mitral NVE or PVE with persistent vegetations >10 mm after one or more embolic episode despite appropriate antibiotic therapy	Urgent	I	B
Aortic or mitral NVE with vegetations >10 mm, associated with severe valve stenosis or regurgitation, and low operative risk	Urgent	IIa	B
Aortic or mitral NVE or PVE with isolated very large vegetations (>30 mm)	Urgent	IIa	B
Aortic or mitral NVE or PVE with isolated large vegetations (>15 mm) and no other indication for surgery[e]	Urgent	IIb	C

• Inadequate antibiotic treatment (agent, dose, duration)
• Resistant microorganisms, i.e. *Brucella spp.*, *Legionella spp.*, *Chlamydia spp.*, *Mycoplasma spp.*, *Mycobacterium spp.*, *Bartonella spp.*, *Coxiella Burnetii*, *fungi*
• Polymicrobial infection in an IVDA
• Empirical antimicrobial therapy for BCNIE
• Periannular extension
• Prosthetic valve IE
• Persistent metastatic foci of infection (abscesses)
• Resistance to conventional antibiotic regimens
• Positive valve culture
• Persistence of fever at the seventh postoperative day
• Chronic dialysis

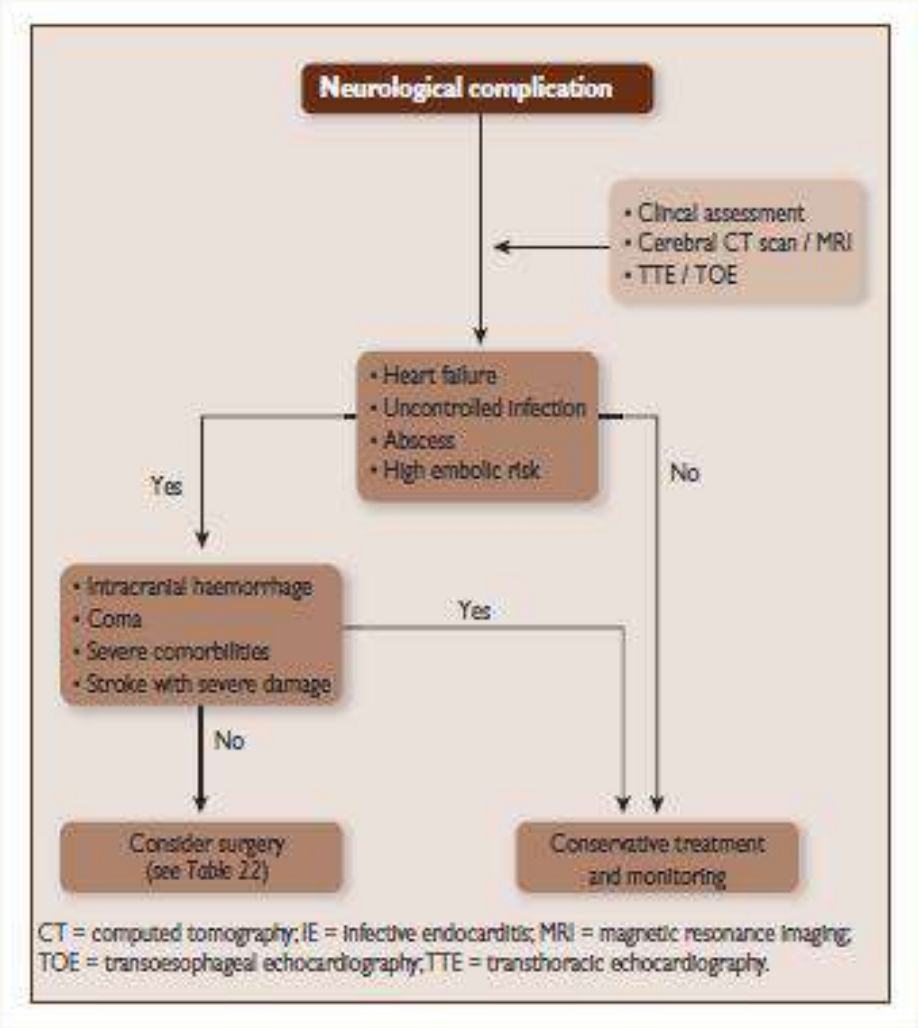

Figure 4 Therapeutic strategies for patients with infective endocarditis and neurological complications.

AATS Surgical Treatment of Infective Endocarditis Consensus Guidelines Writing Committee Chairs, Pettersson GB, Coselli JS; Writing Committee, Pettersson GB, Coselli JS, Hussain ST, Griffin B, Blackstone EH, Gordon SM, LeMaire SA, Woc-Colburn LE.

2016 The American Association for Thoracic Surgery (AATS) consensus guidelines: Surgical treatment of infective endocarditis: Executive summary.

J Thorac Cardiovasc Surg. 2017 Jun;153(6):1241-1258.e29. doi: 10.1016/j.jtcvs.2016.09.093. Epub 2017 Jan 24

El razonamiento

* La EI es una enfermedad de gran variabilidad en la presentación según el primer órgano

* La enfermedad cardiaca subyacente

* Microorganismos

* Presencia/ausencia de complicaciones

* Características del paciente

* Se necesita experiencia y juicio de facultativos de diversas especialidades

* La Ecocardiografía juega un papel crítico en el diagnóstico y tratamiento de la EI

* Otras técnicas de imagen han irrumpido en el proceso de decisión

* La expansión del concepto de multidisciplinaridad

* La estandarización del tratamiento médico

* Seguimiento de Guías de Práctica Clínica (?)

Reducción de la mortalidad a 1 año del 18.5% al 8.2%
Reducción de la mortalidad relacionada con la EI 22% a 13%

Botelho-Nevers E, Thuny F, Casalta JP et al. Arch Intern Med 2009;169:1290-1298.
Carrasco-Chinchilla F, Sanchez-Espin G, Ruiz-Morales J et al. Rev Esp Cardiol 2014;67:380-386.

Manejo exclusivo en centros dedicados

* Más de la mitad de los pacientes necesitan tratamiento quirúrgico
* Pueden desarrollarse complicaciones en cualquier momento del curso de la EI que necesiten el consejo de expertos
* Indicaciones específicas para cirugía de urgencia como complicaciones perianulares, pueden no ser detectadas en ausencia de experiencia en imagen
* Las embolias sistémicas puede ser silentes o con síntomas mínimos, que pueden no ser detectados incluso por expertos
* El traslado de pacientes en *shock* séptico o EAP contribuye a mayor inestabilidad clínica y hemodinámica, con resultados peores

San Roman JA, Vilacosta I, Lopez J. Heart 2014;100:1301-1302

Hub and spoke network

* Centros de referencia “funcionales”
* Existe un EEI de ciertas características y en colaboración estrecha con centros periféricos
* Puente de relación
* Pacientes con EI no complicada
* Tratamiento paliativo

* Centros de referencia “estructurales”
* Archivo digital compartido

Cecchi E, Chirillo F et al. SEICIVI

When to refer a patient with IE to an 'Endocarditis Team' in a reference centre

1. Patients with complicated IE (i.e. endocarditis with HF, abscess, or embolic or neurological complication or CHD), should be referred early and managed in a reference centre with immediate surgical facilities.
2. Patients with non-complicated IE can be initially managed in a non-reference centre, but with regular communication with the reference centre, consultations with the multidisciplinary 'Endocarditis Team', and, when needed, with external visit to the reference centre.

Characteristics of the reference centre

1. Immediate access to diagnostic procedures should be possible, including TTE, TOE, multislice CT, MRI, and nuclear imaging.
2. Immediate access to cardiac surgery should be possible during the early stage of the disease, particularly in case of complicated IE (HF, abscess, large vegetation, neurological, and embolic complications).
3. Several specialists should be present on site (the 'Endocarditis Team'), including at least cardiac surgeons, cardiologists, anaesthesiologists, ID specialists, microbiologists and, when available, specialists in valve diseases, CHD, pacemaker extraction, echocardiography and other cardiac imaging techniques, neurologists, and facilities for neurosurgery and interventional neuroradiology .

Role of the 'Endocarditis Team'

1. The 'Endocarditis Team' should have meetings on a regular basis in order to discuss cases, take surgical decisions, and define the type of follow-up.
2. The 'Endocarditis Team' chooses the type, duration, and mode of follow up of antibiotic therapy, according to a standardized protocol, following the current guidelines.
3. The 'Endocarditis Team' should participate in national or international registries, publicly report the mortality and morbidity of their centre, and be involved in a quality improvement programme, as well as in a patient education programme.
4. The follow-up should be organized on an outpatient visit basis at a frequency depending on the patient's clinical status (ideally at 1, 3, 6, and 12 months after hospital discharge, since the majority of events occur during this period[57]).

Table 9 Recommendations for referring patients to the reference centre

Recommendations	Class[a]	Level[b]	Ref.[c]
Patients with complicated IE should be evaluated and managed at an early stage in a reference centre, with immediate surgical facilities and the presence of a multidisciplinary 'Endocarditis Team', including an ID specialist, a microbiologist, a cardiologist, imaging specialists, a cardiac surgeon and, if needed, a specialist in CHD	IIa	B	12,56
For patients with uncomplicated IE managed in a non-reference centre, early and regular communication with the reference centre and, when needed, visits to the reference centre should be made	IIa	B	12,56

CHD = congenital heart disease; ID = infectious disease; IE = infective endocarditis.
[a]Class of recommendation.
[b]Level of evidence.
[c]Reference(s) supporting recommendations.

Como desarrollarlo?

Rev Esp Cardiol. 2015;68(5):363–368

Editorial

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Organización y funcionamiento de un grupo multidisciplinario de diagnóstico y tratamiento de la endocarditis infecciosa: perspectiva de 30 años (1985–2014)

Carlos A. Mestres,[a] J. Carles Paré,[b] José M. Miró[c,*] and the Working Group on Infective Endocarditis of the *Hospital Clínic de Barcelona*[◇]

[a] *Servicio de Cirugía Cardiovascular, Hospital Clínic, Universidad de Barcelona, Barcelona, Spain*
[b] *Servicio de Cardiología, Hospital Clínic, Universidad de Barcelona, Barcelona, Spain*
[c] *Servicio de Enfermedades Infecciosas, Hospital Clínic, Universidad de Barcelona, Barcelona, Spain*

Article history:
Available online 4 February 2015

La EI es paradigma de colaboración. Los equipos multidisciplinarios (EMD) dedicados a la EI han sido pioneros en la organización de una estructura hospitalaria de tercer nivel dedicada a la enfermedad[6,7]. El grupo *International Collaboration in Endocarditis* ha tenido impacto crucial en la última década para comprender la EI[8]. La *British Heart Valve Society* ha propuesto la

CONSIDERACIÓN PREVIA

La EI es una enfermedad medicoquirúrgica en la que el tratamiento quirúrgico es una parte del proceso y no un fracaso de la terapéutica. El cuidado de los pacientes afectos de EI debe ofrecerse por EMD con profesionales con intereses compartidos.

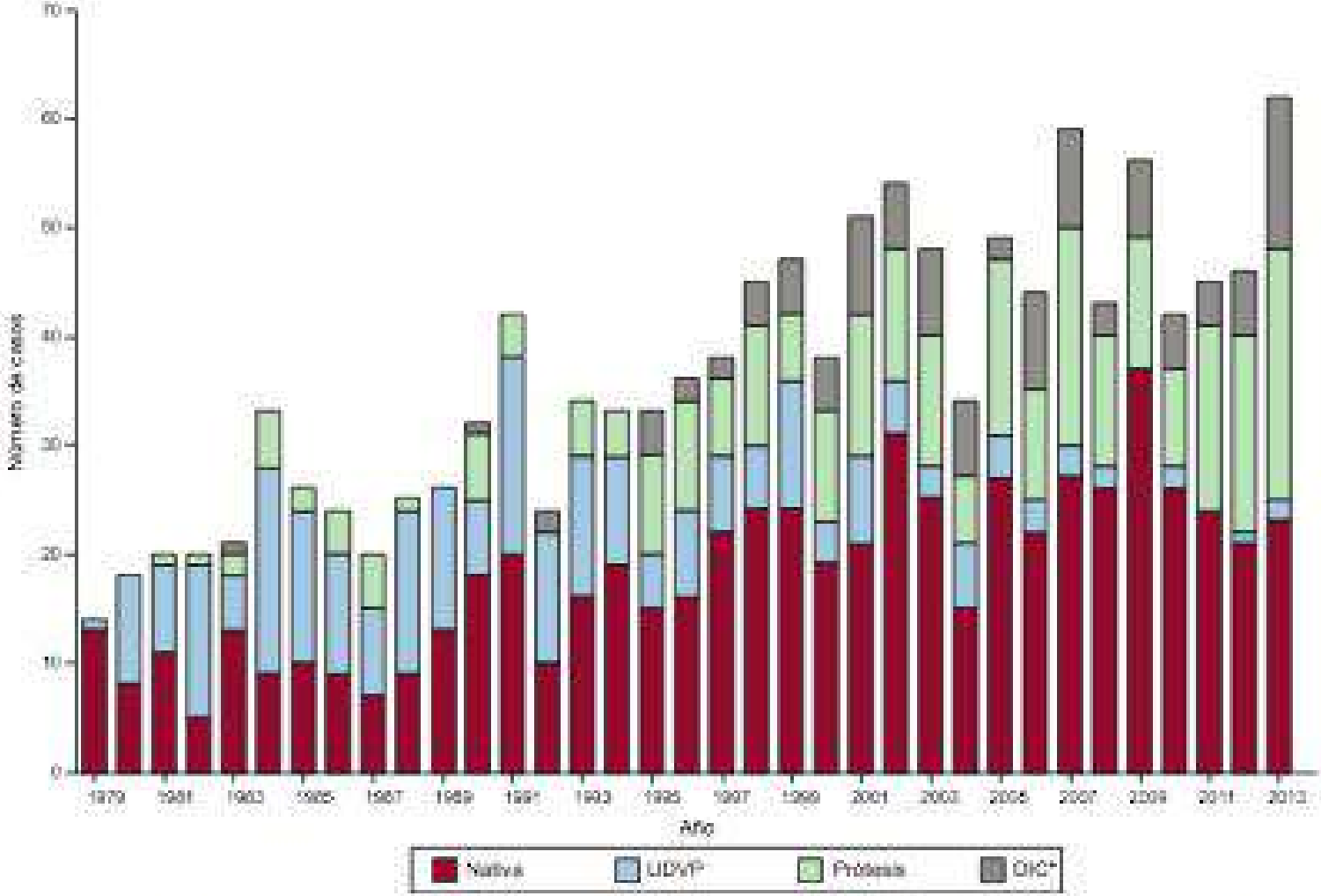


Figura 1. Distribución anual de los casos de endocarditis en el Hospital Clínic de Barcelona desde 1979. DIC: dispositivos intracardiacos; UDVP: usuarios de drogas por vía parenteral. *Marcapasos y desfibriladores.

IN DEPTH

Surgical Management of Infective Endocarditis Complicated by Embolic Stroke

Practical Recommendations for Clinicians

ABSTRACT: There has been an overall improvement in surgical mortality for patients with infective endocarditis (IE), presumably because of improved diagnosis and management, centered around a more aggressive early surgical approach. Surgery is currently performed in approximately half of all cases of IE. Improved survival in surgery-treated patients is correlated with a reduction in heart failure and the prevention of embolic sequelae. It is reported that between 20% and 40% of patients with IE present with stroke or other neurological conditions. It is for these IE patients that the timing of surgical intervention remains a point of considerable discussion and debate. Despite evidence of improved survival

Bobby Yanagawa, MD, PhD
Gosta B. Pettersson, MD, PhD
Gilbert Habib, MD
Marc Ruel, MD, MPH
Gustavo Saposnik, MD, MSc
David A. Latter, MD
Subodh Verma, MD, PhD

Circulation. 2016;134:1280–1292. DOI: 10.1161/CIRCULATIONAHA.116.024156

Yanagawa et al

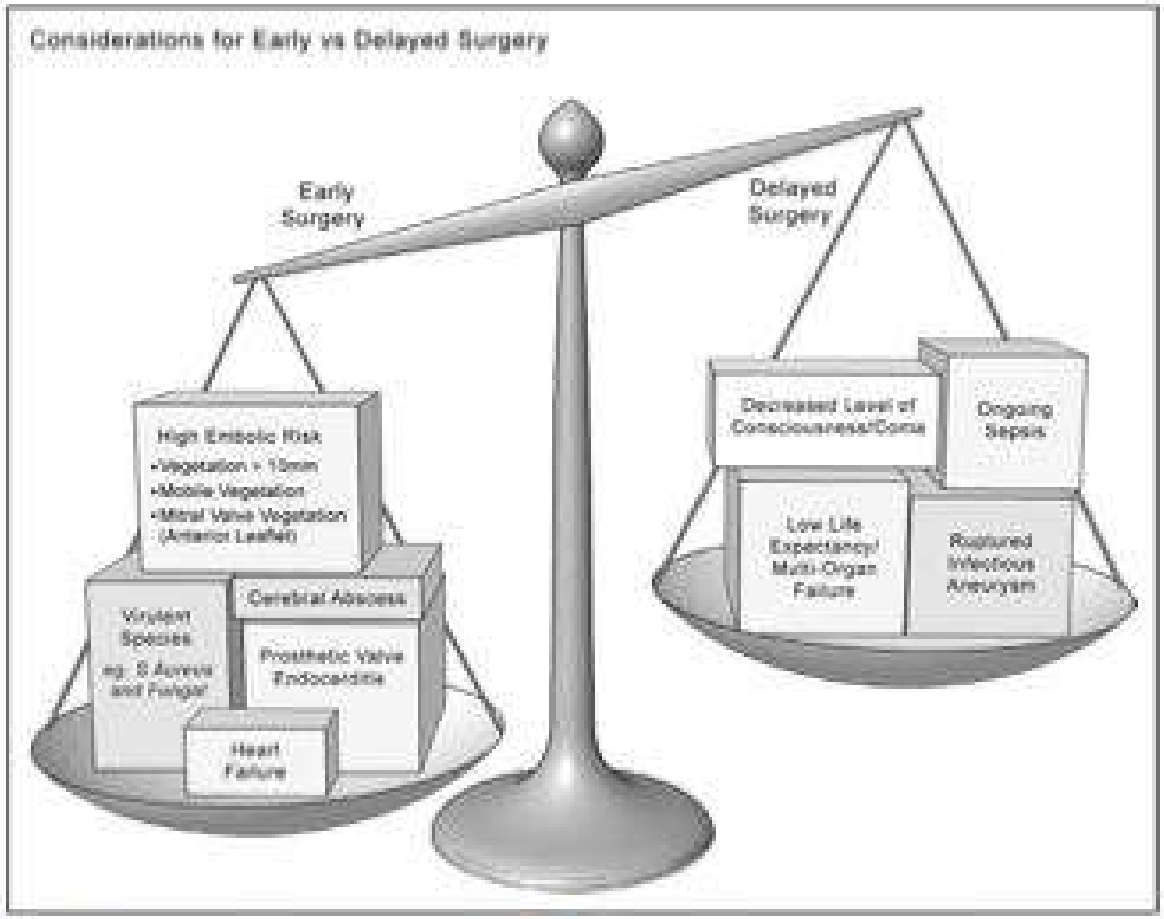


Figure 1. Conceptual diagram of arguments for early and delayed surgery in patients with infective endocarditis with stroke and other cerebral complications.

by a dedicated team of multidisciplinary experts.[61] The Working Group on Infective Endocarditis at the Hospital Clínic de Barcelona has also published recommendations based on their 30-year experience with a dedicated endocarditis team.[62] The team should include cardiac surgeons, cardiologists, infectious disease specialists, neurologists, interventional neuroradiologists, and other specialists as necessary. Additional specialists may include nephrology, orthopedic surgery for spine involvement, cardiovascular pathologists, home care support for outpatient parenteral antibiotic treatment, and specialists to manage intravenous drug

abuse. Given that patients with IE and cerebral embolism are among the highest-risk surgical candidates, we advocate for referral to tertiary centers with an experienced endocarditis team. Currently, the Hospital Clínic de Barcelona experience is an exception and not the rule, because the development of an endocarditis team requires a significant investment of time, which is often not financially reimbursed. Finally, it is important that such meetings should not cause delays in decision making and treatment.

UniversitätsSpital Zürich

Endokarditis Board

Endokarditis Board

Protokoll

Datum:	14.3.2016
Zeit:	17.00 Uhr, Hoer-D 49
Teilnehmer:	Annelies Zinkernagel, Irene Abela, Barbara Hasse, Matthias Greutmann, Christiane Gruner, Michelle Frank, Urs Schwarz, Inga Hegemann, Alberto Weber
Entschuldigt:	Jan Steffel
Verteiler:	Teilnehmer, T. Aquino
Protokoll:	Alberto Weber
to do:	• KISIM Formulare Endokarditis Board aufschalten • Plastifizierte Folie mit Anmelde Prozess als INFO

	Traktandum	Auftrag To do	Termin
01.	**Endokarditis Board findet im D HOER 49 wöchentlich jeden Donnerstag um 7:00 Uhr Morgens statt**		
02.	**Es wird jeweils mind ein Stellvertreter der folgenden Kliniken teilnehmen: KAR, NUK, INF, NEUR, HER, HAEM. (siehe oben Teilnehmer)**		

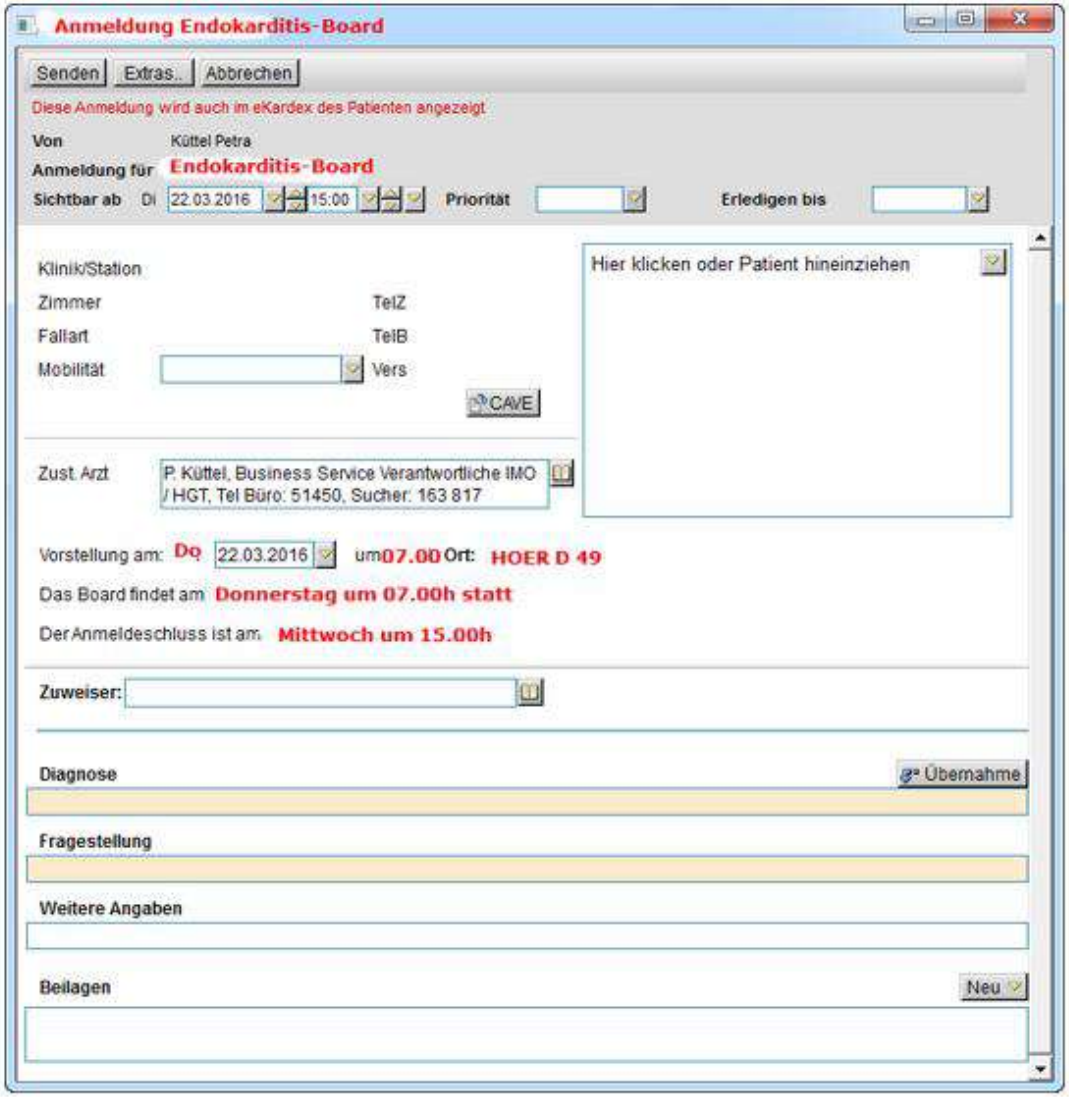
UniversitätsSpital Zürich

Klinik für Herz- und Gefässchirurgie

	Traktandum	Auftrag To do	Termin
03.	**Die Anmeldungen via KISIM werden in einem dafür eingerichteten Postfach verwaltet. Tina Aquino hat von Seiten Sekretariat zugriff und alle o.g. Kollegen auch. Mit Datumfilter werden alle angemeldete Patienten ersichtlich welche jeweils in der ausgewählten Woche vorgestellt werden sollen. Die Patientenliste wird aber vorerst nicht gelöscht**		
04	**Die besprochenen Patienten werden in der Databank von Michelle Frank hinzugefügt. Erstmals durch einen Masterstudent. In der Zukunft wird die Finanzierung einer Board-Study Nurse diskutiert. In Frage kommt die Herzstiftung.**		
05.	**Aorta Graft Infekte werden im Board auch integriert.**	Aquino	
06	**Startdatum wird abhängig davon sein wann die Formulare im KISIM aufgeschaltet sind. April frühestens, Mai wahrscheinlich.**		
06.	**Geriatrisches Assessmen**		
07.	**Wenn das Endokarditis Board funktioniert, wird in der Zukunft eine Eingliederung im europäischen Register diskutiert.**		

Endokarditis-Board

Anmeldung (analog Tumorboard-Anmeldung):



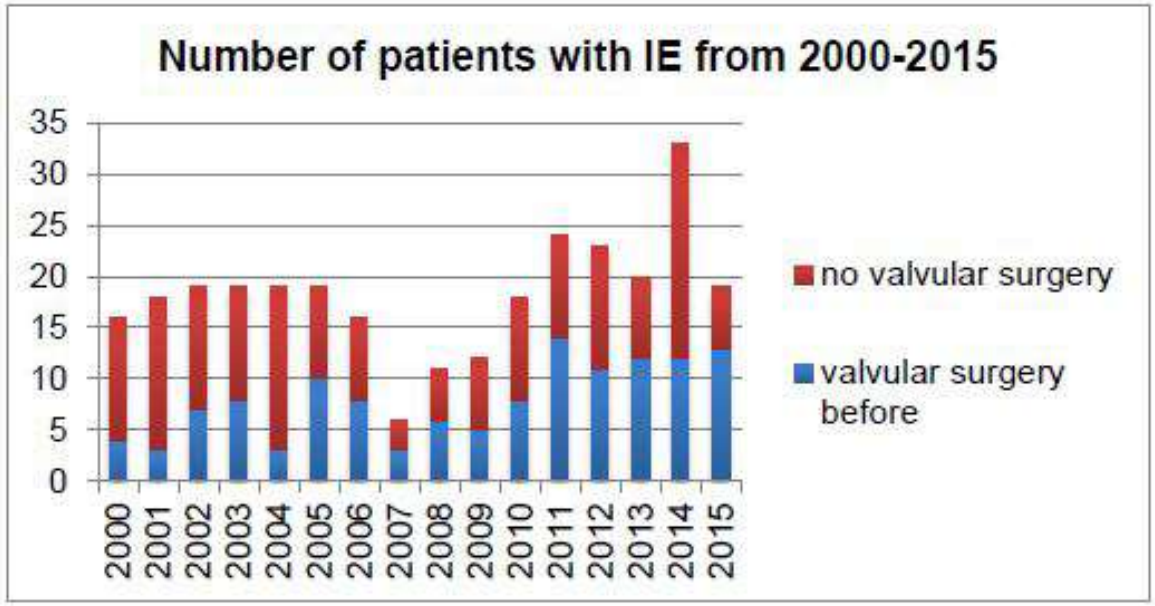
Senden an neuer Pool-Briefkasten „Endokarditis-Board"

Berechtigte Kliniken (HER, KAR, INF, NUK, HAEM, NEURO)
:
-PD Dr. Alberto Weber (WEAL)

Table 1: Population baseline characteristics, risk factors and common complications (preliminary results USZ)

	All patients (n=315)
Mean age (years)	53.5 ±18.0
Female (n, [%])	69 [22.6]
Male (n, [%])	236 [77.4]
GUCH (grown ups congenital heart disease, n, [%])	29 [9.2]
Native valve IE (n, [%])	136 [43]
Prosthetic valve IE (n, [%])	151 [48]
Device IE (n, [%])	25 [7.9]
Clinical signs of infective endocarditis	
Fever (< 38C°, n, [%])	207 [65.7]
Heart murmur (n, [%])	230 [73.0]
Vascular complications[a] (n, [%])	151 [47.9]
Cerebral complications (n, [%])	102 [32.4]
ARF (acute renal failure), n (%)	140 [44.4]
Clinical risk factors for IE	
Previous valve surgery, n (%)	126 [42.9]
Previous valve disease (n, [%])	193 [61.3]
IVDA (n, [%])	24 [7.6]
Other complications during clinical course	
ICU stay (Intensive Care Unit, n, [%]))	189 [60]
Shock or MOF (multiorganfailure, n, [%])	81 [25.7]
Instable hemodynamics (n, [%])	95 [30.2]
Surgical intervention (n, [%])	164 [52]
Lethal outcome (n, [%])	50 [15.9]

Figure 4: Epidemiological trend of IE at the University Hospital Zurich, divided into cases with and without surgery and/or implantable cardiac devices



Note: only half of the patients from 2015 are currently recorded.

Courtesy of Fr. Dr. Michelle Frank

Universität Zürich[UZH]

UniversitätsSpital Zürich

ENDOVASCULAR AND CARDIAC VALVE INFECTION REGISTRY: NEW PATHOGENS AND DIAGNOSTIC POSSIBILITIES

A PROSPECTIVE OBSERVATIONAL COHORT STUDY

"ENVALVE"

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Division of Infectious Diseases and Hospital Epidemiology

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Figure 1

Infectious Disease Specialist
Cardiologist
Cardio-vascular Surgeon
Surgical Pathology
Infective Endocarditis Aortic Graft Infections Device Infections
Microbiology
Cardiac Imaging
Cardiac ICU
Neurologist

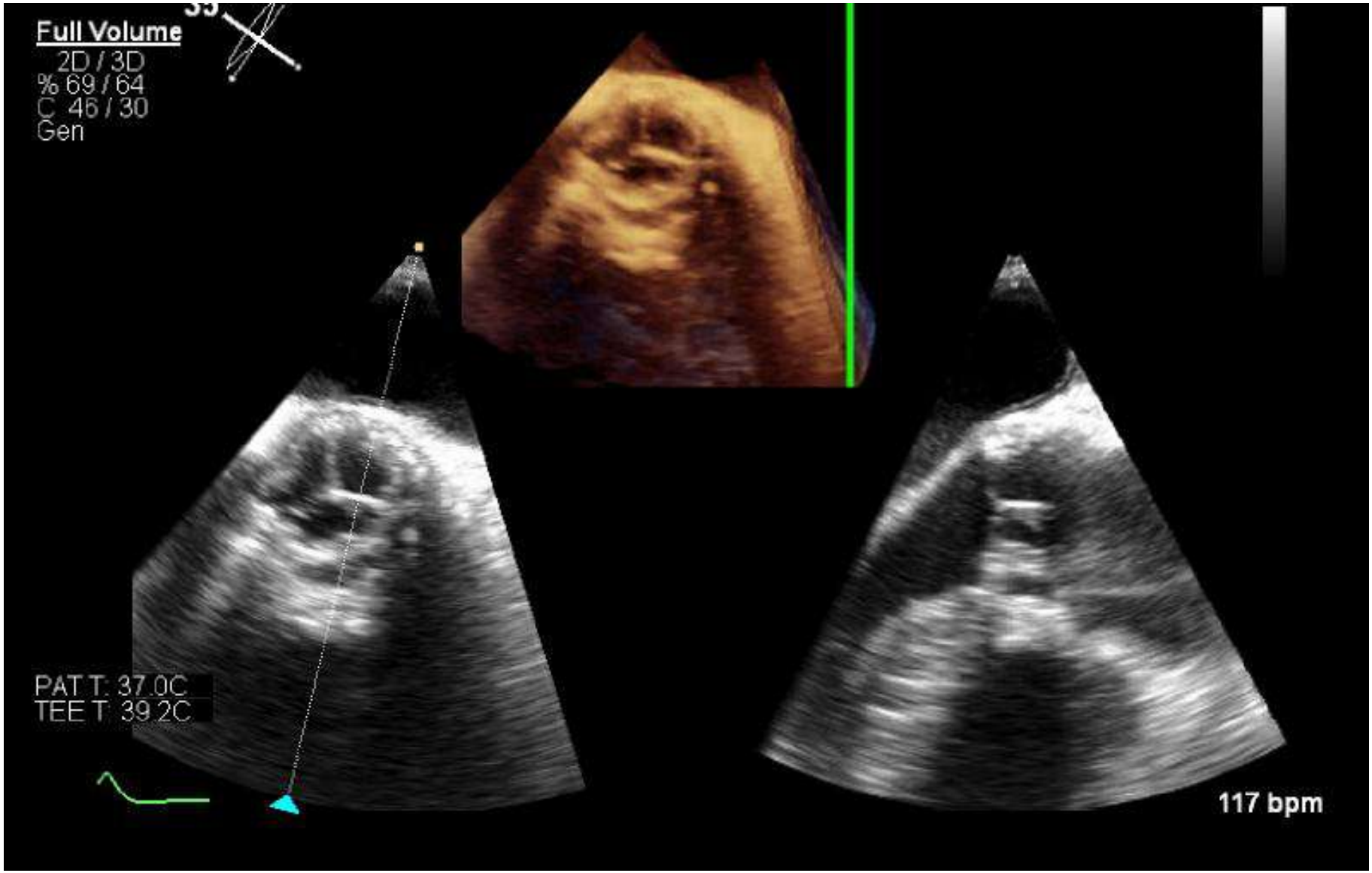
HFV Category:	HFV project category A Taking biological samples and collection of health-related personal data can be associated with more than minimal risk and stress (e.g. in case of TEE, PET/CT, Angio-CT or in case of surgery)
Short title:	ENVALVE - Registry
Project Population:	All patients with suspected and/or diagnosed infective endocarditis and endovascular infections
Project Design:	Prospective observational, open cohort study
Study centre	University Hospital Zurich

Aim II: Nested research questions

- Epidemiology of IE
  - Determine complications and outcome of different types of endocarditis (NVE, PVE, TAVR, mitraclip, cardioband, CID, VAD, PM, CRT).
  - Determine impact of antibiotics (especially aminoglycosides) on the course and outcome of endocarditis.
  - Determine best timing of surgery.
  - Compare antibiotic treatment vs. surgery.
- Accuracy of current diagnostic tools
  - Determine accuracy of TTE in IE, especially in PV
  - Evaluate added value of TEE and 3D-TEE in IE, especially in PV.
  - Evaluate added and prognostic value of ^{18}F-FDG PET/CT in IE.
  - Evaluate added and prognostic value of whole body CT scan in IE with *Staphylococcus aureus*.
- Microbiology
  - Determine the bacterial diversity of IE and determine trends/changes over time.
  - Determine the use/added value of molecular technologies in IE.

- Determine the epidemiology of blood-culture negative endocarditis (BCNE).
- Determine trends in drug resistance.

- Biomarkers and Biobank
  - Determine cut-off levels of blood leucocytes, ESR, CRP and procalcitonin raising suspicion of IE.
  - Evaluate histopathological features of tissue samples and excised valves.
- Translational science
  - Assess effects of protein synthesis inhibitors on staphylococcal DNase activity, biofilm formation and persistence on various surfaces including medical devices or prosthetic valves currently used in clinics.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C 46 / 30
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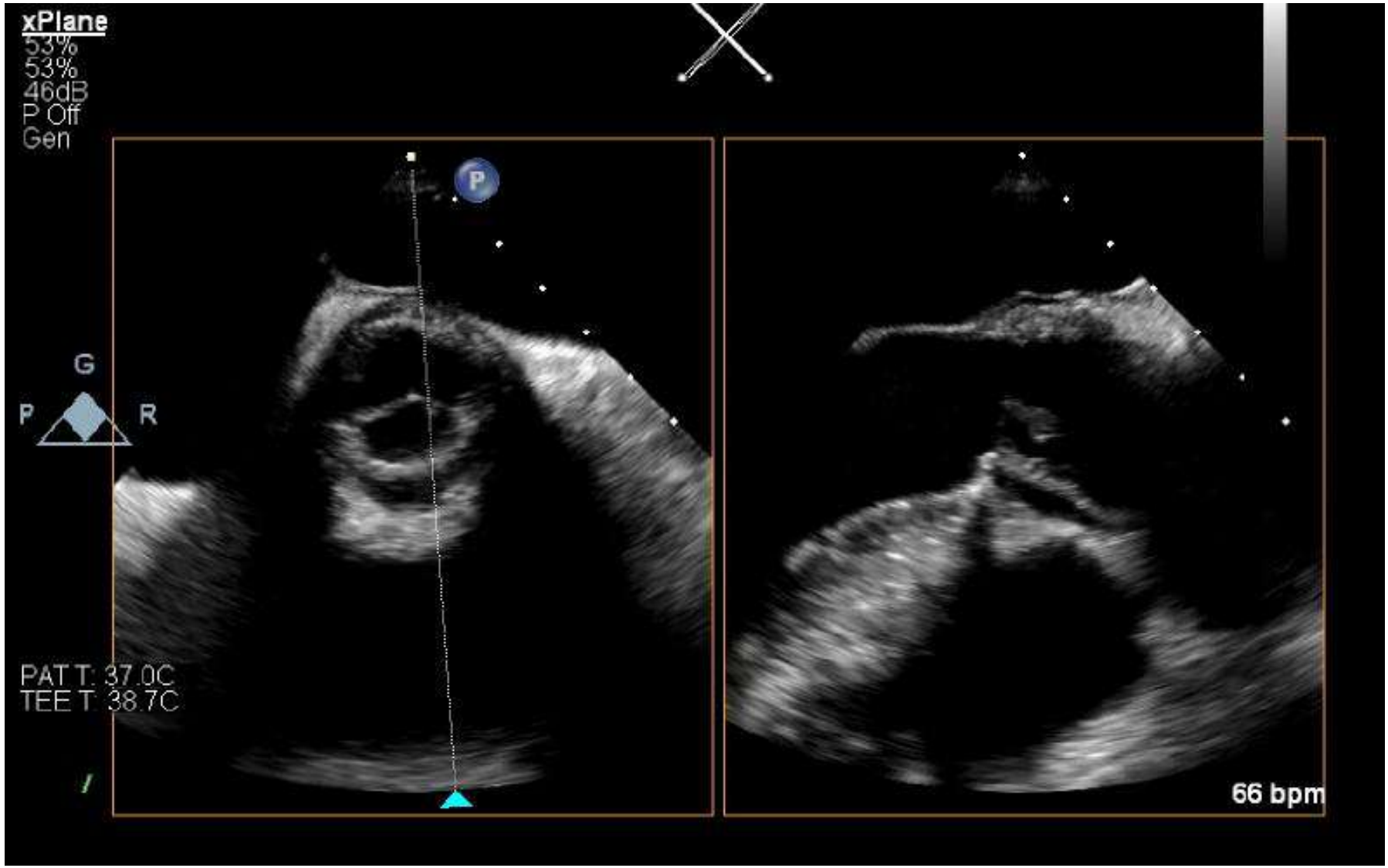
TEE T: 39.2C
117 bpm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53%
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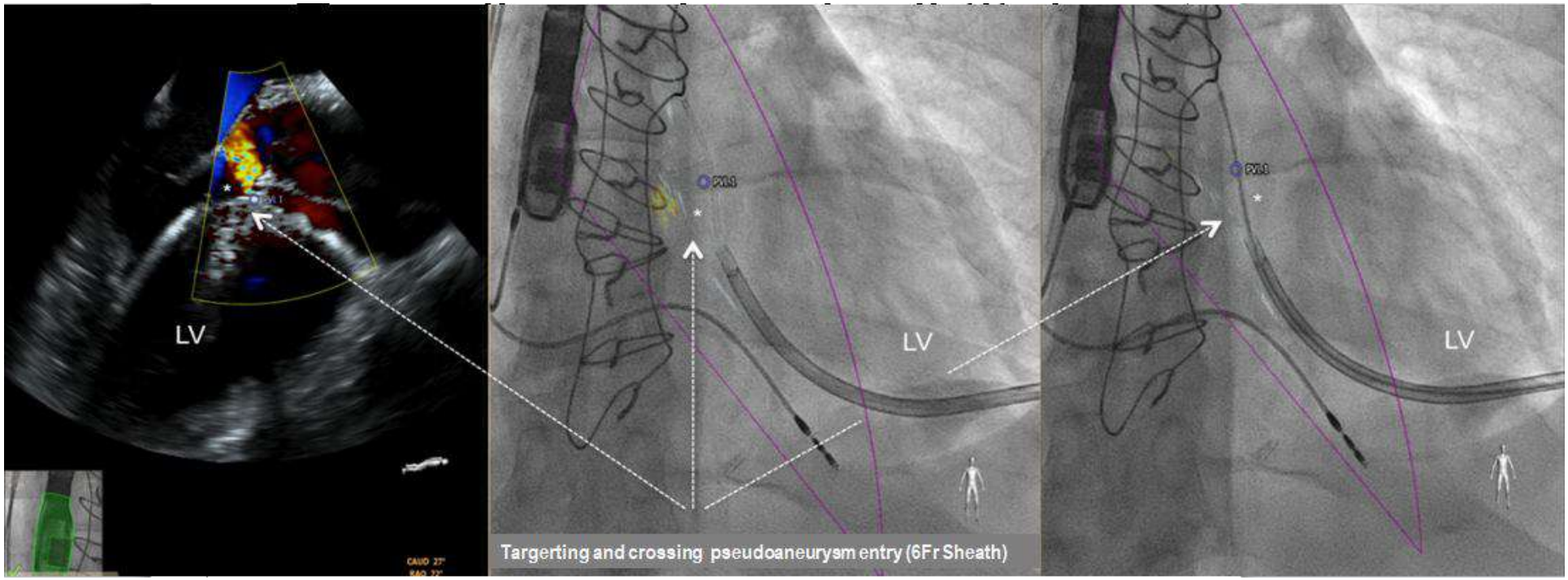
TEE T: 38.7C
66 bpm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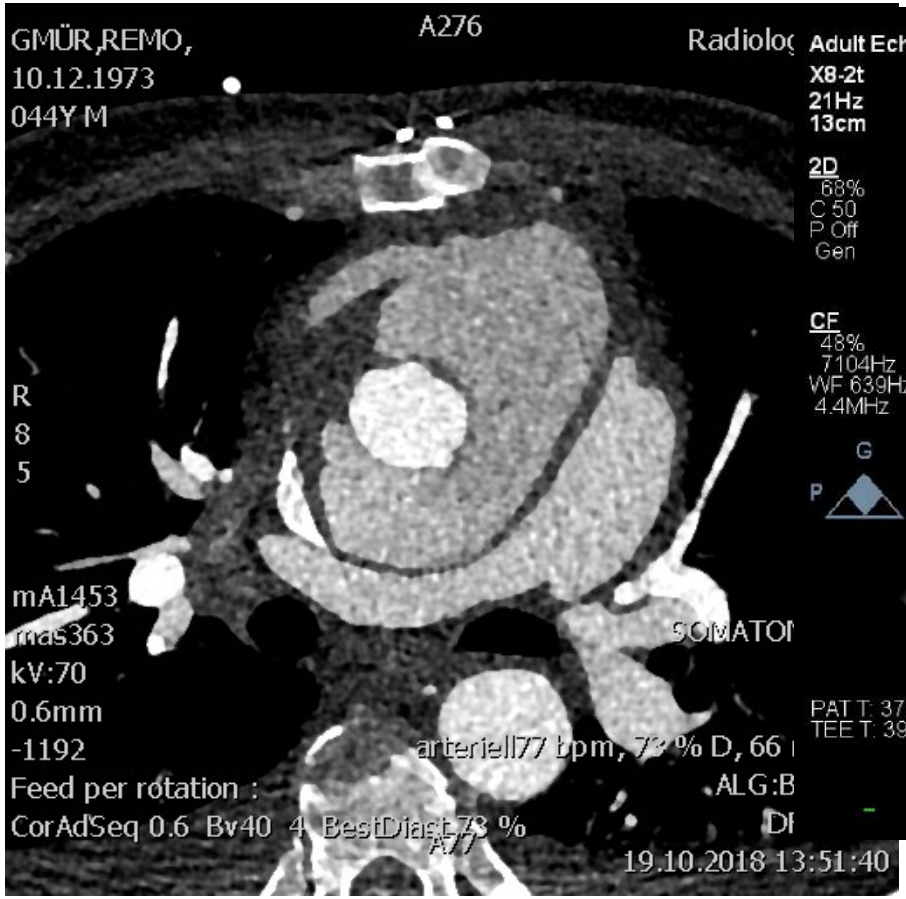
LV
LV
Targerting and crossing pseudoaneurysm entry (6Fr Sheath)

Plugs in place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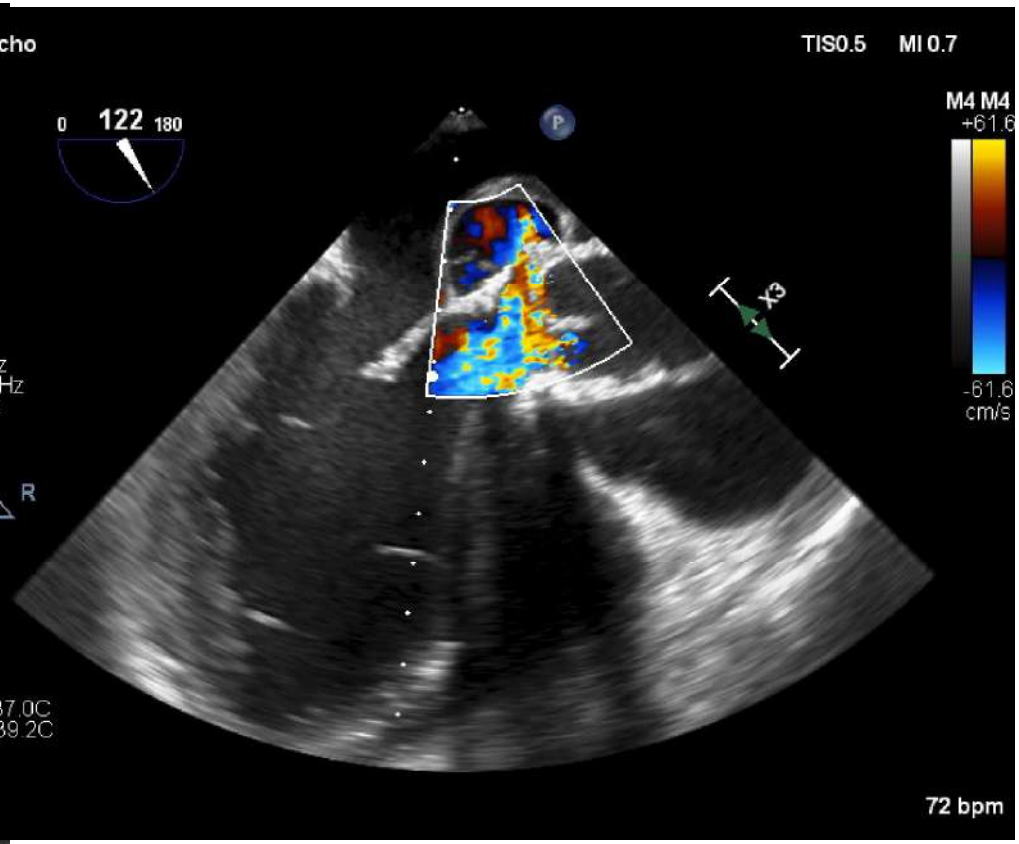
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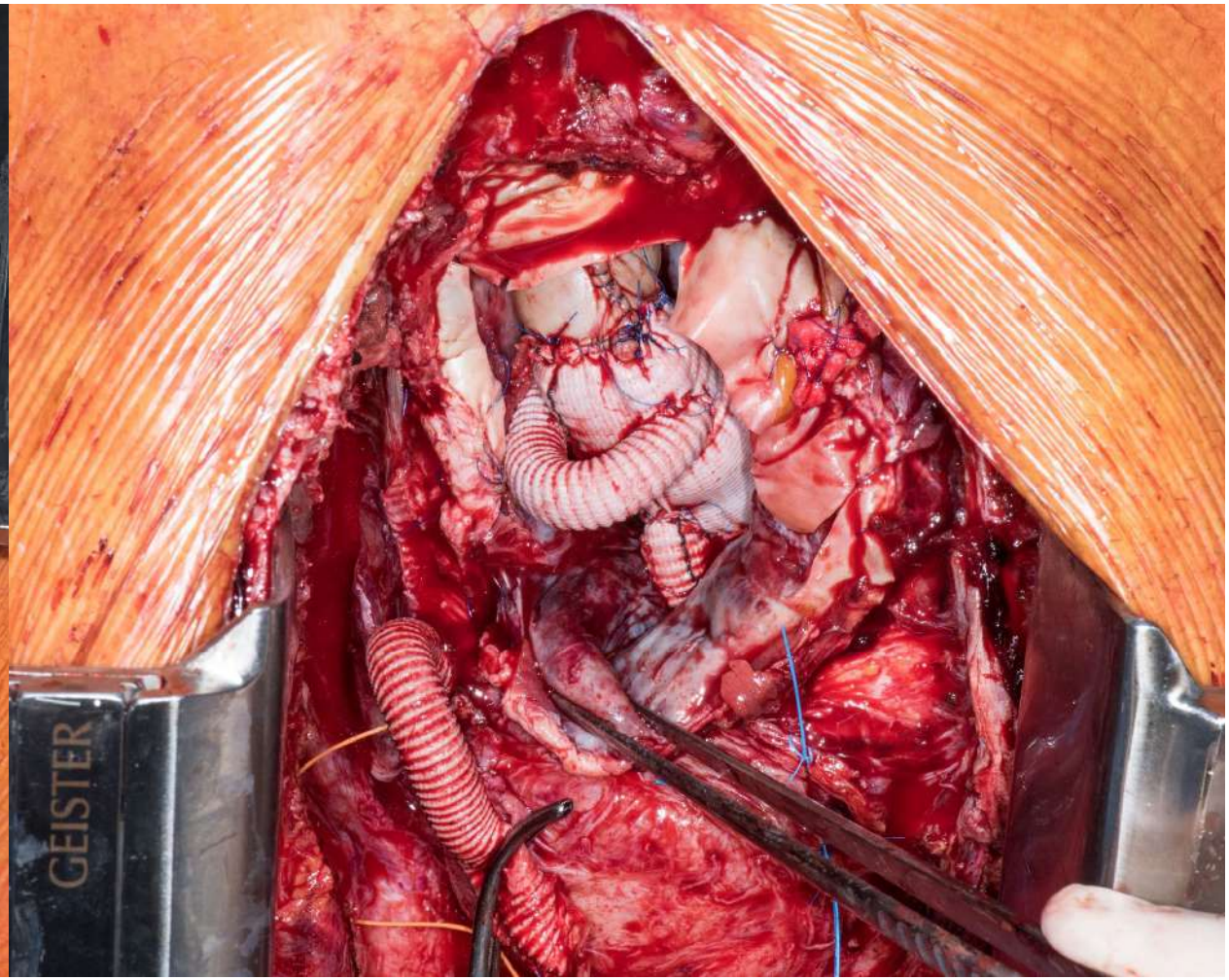
68%
C 50
P Off
Gen
CF
48%
7104Hz
WF 639Hz
4.4MHz
G
P R
PAT T: 37.0C
TEE T: 39.2C
TIS0.5 MI 0.7
M4 M4
+61.6
-61.6
cm/s
X3
72 bpm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THE PRESENT AND FUTURE

STATE-OF-THE-ART REVIEW

Challenges in Infective Endocarditis

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Erwan Salaun, MD,[d] Gosta B. Pettersson, MD, PhD,[f] Hans Joachim Schäfers, MD,[g] Bernard D. Prendergast, DM[h]

Centralized care concentrated in tertiary centers with advanced diagnostic imaging, surgical expertise, and higher throughput clearly has a role in complex cases and may also be universally beneficial. There are arguments against this model, however, such as delays during transfer and loss of local expertise. Reconfiguration toward a system of centralized IE care (or a hub-and-spoke model, with central multidisciplinary review) should therefore be instituted on the basis of evidence. The efficacy of centralized care to improve decision making, time to surgery, cure rates, and short- and long-term outcomes could be readily tested in a before-and-after study.

TABLE 3 Indications for Surgery in AHA and ESC Guidelines

	AHA Guidelines 2015 (89)	Class, Level of Evidence	ESC Guidelines 2015 (68)	Class, Level of Evidence	Timing†
Heart failure	Early surgery* is indicated in patients with IE who present with valve dysfunction resulting in symptoms or signs of HF	I, B	Aortic or mitral NVE, or PVE with severe acute regurgitation, obstruction, or fistula causing refractory pulmonary edema or cardiogenic shock	I, B	Emergency
	Early surgery* is indicated in patients with PVE with symptoms or signs of HF resulting from valve dehiscence, intracardiac fistula, or severe prosthetic valve dysfunction	I, B	Aortic or mitral NVE, or PVE with severe regurgitation or obstruction causing symptoms of HF, or echocardiographic signs of poor hemodynamic tolerance	I, B	Urgent
Uncontrolled infection	Early surgery* is indicated in patients when IE is complicated by heart block, annular or aortic abscess, or destructive penetrating lesions	I, B	Locally uncontrolled infection (abscess, false aneurysm, fistula, enlarging vegetation)	I, B	Urgent
	Early surgery* is reasonable for patients with relapsing PVE	IIa, C			
	Early surgery* should be considered, particularly in patients with IE caused by fungi or highly resistant organisms (e.g., VRE, multidrug-resistant gram-negative bacilli)	I, B	Infection caused by fungi or multiresistant organisms	I, C	Urgent/elective
	Early surgery* is indicated for evidence of persistent infection (manifested by persistent bacteremia or fever lasting >5-7 d, and provided that other sites of infection and fever have been excluded) after the start of appropriate antimicrobial therapy	I, B	Persisting positive blood cultures despite appropriate antibiotic therapy and adequate control of septic metastatic foci	IIa, B	Urgent
			PVE caused by staphylococci or non-HACEK gram-negative bacteria	IIa, C	Urgent/elective

TABLE 3 Indications for Surgery in AHA and ESC Guidelines

	AHA Guidelines 2015 (89)	Class, Level of Evidence	ESC Guidelines 2015 (68)	Class, Level of Evidence	Timing†
Prevention of embolism	Early surgery* is reasonable in patients who present with recurrent emboli and persistent or enlarging vegetations despite appropriate antibiotic therapy	IIa, B	Aortic or mitral NVE, or PVE with persistent vegetations >10 mm after ≥1 embolic episode despite appropriate antibiotic therapy	I, B	Urgent
	Early surgery* is reasonable in patients with severe valve regurgitation and mobile vegetations >10 mm	IIa, B	Aortic or mitral NVE with vegetations >10 mm, associated with severe valve stenosis or regurgitation, and low operative risk	IIa, B	Urgent
	Early surgery* may be considered in patients with mobile vegetations >10 mm, particularly when involving the anterior leaflet of the mitral valve and associated with other relative indications for surgery	IIb, C	Aortic or mitral NVE, or PVE with isolated very large vegetations (>30 mm)	IIa, B	Urgent
			Aortic or mitral NVE, or PVE with isolated large vegetations (>15 mm) and no other indication for surgery	IIb, C	Urgent

phylaxis. The value of integrated diagnostic strategies using multimodality imaging is emerging and needs refinement on the basis of real-world patient cohorts. Surgical treatment plays an increasing role, but the current wide variation in outcomes suggests that management should be concentrated in larger valve centers of excellence. Further improving the

Para cerrar

* Las actuales Guías de Practica Clínica (ESC) sugieren la necesidad de un Equipo de Endocarditis para tratar con eficacia y eficiencia esta enfermedad

* El Equipo de Endocarditis es una parte integrada en el tratamiento de la EI y es ya un *standard of care*

* Las decisiones consensuales multidisciplinarias pueden ayudar a optimizar el cuidado del paciente en las infeccionas vasculares protésicas