



Endocarditis recurrente: causa, momento y consecuencias

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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)

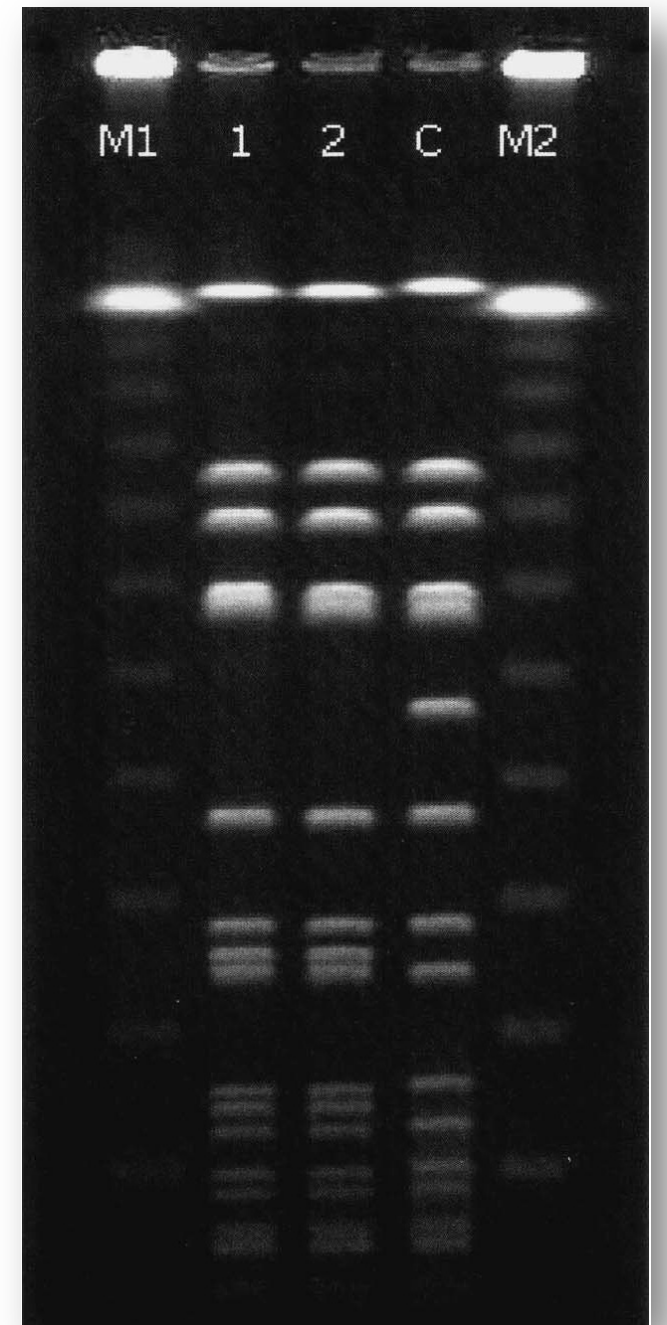
- Riesgo de recurrencias del 2-6%
- Recaídas y reinfección.
- Mayor mortalidad y necesidad de intervención quirúrgica.
- Tipo de prótesis implantada no tiene impacto en las recurrencias.

Factores asociados con las recurrencias

- Régimen antibiótico inadecuado
- Microorganismos resistentes. Brucella spp, Legionella spp, Coxiella, hongos, Mycoplasma spp, Chlamydia spp, Mycobacterium spp, Bartonella spp.
- Infección polimicrobiana.
- ADVP
- EI con hemocultivos neg
- Afectación paravalvular
- Endocarditis protésica
- Cultivo valvular positivo
- Persistencia de la fiebre en el 7º día postIQ.
- Foco infeccioso metastásico persistente.
- Hemodiálisis crónica.
- Foco séptico primario no filiado
- Edad (> 65 años).
- El previa

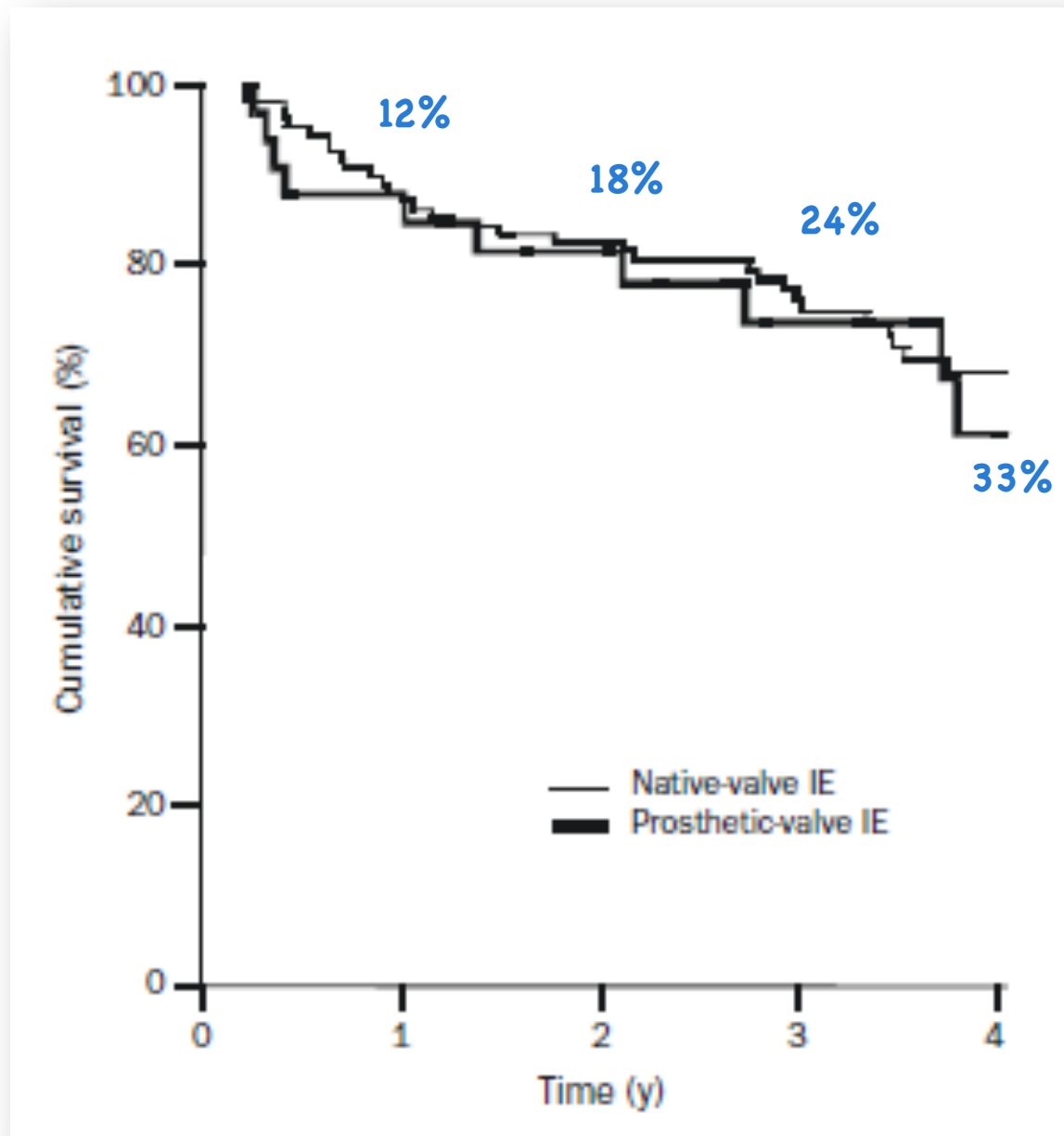
Definiciones actuales en la EI de repetición (ICE)

- **Recaída:** nuevo episodio EI causado por el mismo germen. Primeros 6 meses.
- **Reinfección:** nuevo episodio de EI causado por un microorganismo diferente o por el mismo microorganismo > 6 meses.



Long-term Outcome of Infective Endocarditis in Non-Intravenous Drug Users

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ROBERTO DEL CASTILLO, MD; MIGUEL ANGEL GARCÍA-FERNÁNDEZ, MD, PhD; MARTA RODRÍGUEZ-CRÉIXEMS, MD, PhD;
MAR MORENO, MD; AND EMILIO BOUZA, MD, PhD; FOR THE GAME STUDY GROUP



- 222 EI/143 EI que sobreviven al ingreso 1994-2005.
- Mortalidad relacionada con la edad y las comorbilidades.
- 6 pacientes (4%) con 8 recurrencias. Todas mas allá de 3 meses

TABLE 3. Clinical Profiles of 6 Patients With Recurrent IE^{a,b}

Characteristic	Patient					
	1	2	3	4	5	6
Age (y)	61	33	79	56	70	72
Prosthetic valve	No	Yes	No	No	Yes	No
First IE						
Cardiac device–related	Yes	No	No	No	No	No
Etiology	MRSA	CNS	<i>Enterococcus</i> spp	CNS	CNS	<i>Streptococcus mutans</i>
Pharmaceutical treatment	Adequate	Adequate	Inadequate	Inadequate	Adequate	Adequate
Surgical treatment	Incomplete lead extraction	AVR	No	No	No	AVR
First recurrence						
Time after discharge (mo)	18.0	3.4	3.5	14.8	7.8	4.4
Cardiac device–related	Yes	Yes	No	No	No	No
Etiology	MSSA	CNS	<i>Enterococcus</i> spp	CNS	Negative BC	<i>Enterococcus</i> spp
Surgical treatment	Complete lead extraction	AVR ^c	No	No	No	No
Death	No	No	Yes	No	Yes	Yes
Second recurrence						
Cardiac device–related	No	Yes	NA	NA ^d	NA	NA
Etiology	MSSA	CNS	NA	NA ^d	NA	NA
Surgical treatment	No	Complete lead extraction	NA	NA ^d	NA	NA
Death	No	No	NA	NA ^d	NA	NA

- Las mayoría de las ocasiones (5/8) las recurrencias son causadas por la misma cepa por un manejo inadecuado médico o quirúrgico
- Mortalidad del 50%.

Immediate and long-term outcome of left-sided infective endocarditis. A 12-year prospective study from a contemporary cohort in a referral hospital

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438 endocarditis entre el 2000-11.

2.2% recaídas. 2.6% reinfección. Diferente pronóstico

Las reinfecciones son poco frecuentes pero con una elevada mortalidad

TABLE 5. Description of seven episodes of relapse

Age, years	Sex	Underlying condition	Aetiology	Valve affected	Surgery during active phase of IE	Days until relapse ^a	Treatment of relapse	Final status (follow-up, years) ^b
70.9	Female	Child C cirrhosis	<i>S. epidermidis</i>	Mitral prosthetic	Not performed ^c	42	Medical ^d	Alive (0.4) ^e
61.6	Male	CRF	<i>S. mitis</i>	Mitral prosthetic	Not indicated	27	Medical	Cured (0.5)
70.1	Male	CRF, stroke	<i>E. faecalis</i>	Aortic prosthetic	Not indicated	61	Medical	Cured (3.8)
88.5	Male	CRF, CPD	<i>E. faecalis</i>	Aortic prosthetic	Not performed ^c	25	Medical	Cured (1.1)
77.8	Male	Diabetes	<i>S. gallolyticus</i>	Aortic native	Not performed ^f	16	Surgical	Cured (3.3)
48.1	Male	CPD	<i>S. gordonii</i>	Mitral native	Performed ^g	4	Medical	Cured (2.2)
71.3	Female	None	c-MRSA	Mitral valve	Performed ^h	7	Surgical	Cured (0.3)

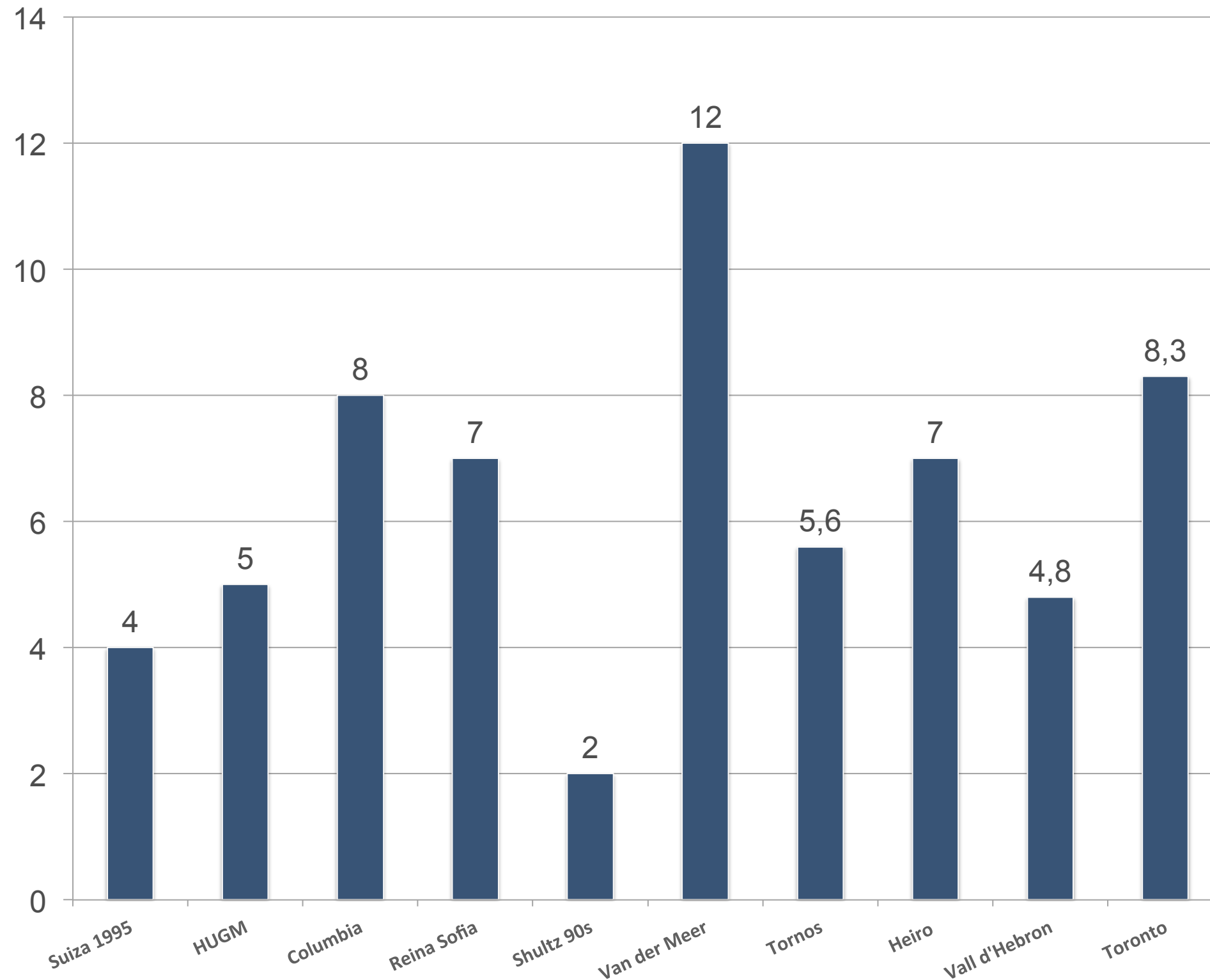
TABLE 6. Description of eight episodes of recurrence

Age, years	Sex	Aetiology	Valve affected	Surgery during first episode	Years to recurrence ^a	Second aetiology	Valve affected second episode	Surgery during second episode	Final status (follow-up, years) ^b
66.2	Male	<i>S. sanguis</i>	Aortic native	Not performed ^c	3.7	<i>S. mitis</i>	Mitral native	Performed	Death (–)
31.0	Male	<i>S. mitis</i>	Mitral native	Not performed ^d	1.2	<i>Streptococcus</i> spp.	Mitral native	Not indicated	Death (–)
91.0	Male	<i>E. coli</i>	Mitral native	Not indicated	0.2	<i>Candida albicans</i>	Mitral native	Not performed ^c	Death (–)
72.1	Male	<i>S. viridans</i>	Mitral native	Not performed ^c	0.7	<i>S. epidermidis</i>	Mitral native	Not performed ^c	Alive (2.2)
45.1	Female	<i>S. mitis</i>	Mitral native	Not indicated	0.6	<i>S. mitis</i>	Aortic native	Not performed ^e	Death (–)
77.8	Female	<i>S. aureus</i>	Mitral native	Performed	0.3	<i>Candida albicans</i>	Mitral prosthetic	Not performed ^c	Death (–)
68.0	Male	<i>S. aureus</i>	Mitral native	Performed	0.9	<i>E. faecalis</i>	Mitral prosthetic	Performed	Alive (5.3)
77.4	Male	<i>S. anginosus</i>	Aortic native	Performed	1.7	<i>S. agalactiae</i>	Aortic prosthetic	Performed	Death (–)

Predictores mortalidad

- Health-care EI
- PVEI
- Comorbilidades
- S. Aureus
- Insuficiencia renal
- Ictus
- Insuf cardiaca

Epidemiología El recurrente



Características clínicas y evolución de la endocarditis infecciosa recurrente en no drogadictos

Marcos Rodríguez, Manuel Anguita, Juan C. Castillo, Francisco Torres^a, Juan R. Siles, Dolores Mesa, Manuel Franco, Javier García-Alegría^a, Manuel Concha y Federico Vallés

TABLA 1. Características generales del primer y segundo episodios de endocarditis en los casos de recurrencia en nuestra serie

Caso	Germen episodio inicial	Germen recurrencia	Tiempo*	Localización inicial	Localización recurrencia	Cir. Ini.	Cir. Rec.
1	<i>S. viridans</i>	<i>S. aureus</i>	12	Aórtica	Aórtica	No	Sí
2	<i>S. viridans</i>	<i>S. aureus</i>	18	Aórtica	Mitral	No	Sí
3	<i>S. viridans</i>	<i>S. epidermidis</i>	4	Mitral	Mitral	Sí	Sí
4	<i>E. faecalis</i>	<i>S. epidermidis</i>	10	Mitral	Mitral	Sí	Sí
5	<i>S. aureus</i>	<i>S. viridans</i>	20	Mitral	Mitral	No	No
6	<i>S. viridans</i>	<i>S. epidermidis</i>	6	Mitral	Mitral	Sí	Sí
7	<i>E. faecalis</i>	<i>S. viridans</i>	19	Aórtica	Aórtica	No	No
8	<i>S. aureus</i>	<i>S. viridans</i>	26	Mitral	Mitral	Sí	No
9	<i>S. viridans</i>	<i>S. epidermidis</i>	8	Mitral	Mitral	Sí	Sí
10	Difteroide	<i>S. viridans</i>	60	Mitral	Mitral	No	No
11	<i>S. aureus</i>	<i>S. viridans</i>	31	Tricúspide	Tricúspide	Sí	No
12	Difteroide	<i>S. viridans</i>	28	Mitral	Aórtica	No	No
13	<i>C. burnetii</i>	<i>E. faecalis</i>	24	Aórtica	Aórtica	Sí	Sí

*Tiempo: tiempo entre episodios (meses); Cir. Ini.: cirugía en el episodio inicial. Cir. Rec.: cirugía en la recurrencia.

Entre 1987-2000 :13 recurrencias sobre 182 EI (7%)

24± 9 meses (4-60) hasta la recurrencia

Microorganismos diferentes en los 13 casos

85% protésicas (5 EI protésica precoz. 5 *epidermidis*/1 *S aureus*)

Características clínicas y evolución de la endocarditis infecciosa recurrente en no drogadictos

Marcos Rodríguez, Manuel Anguita, Juan C. Castillo, Francisco Torres^a, Juan R. Siles, Dolores Mesa, Manuel Franco, Javier García-Alegría^a, Manuel Concha y Federico Vallés

TABLA 2. Características generales de los pacientes con endocarditis infecciosa (EI) recurrente comparadas con las de los primeros episodios de endocarditis en nuestra serie

Variable	EI recurrente (n = 13)	Primer episodio de EI (n = 181)	p
Edad (años)	46 ± 15	48 ± 20	NS
Sexo (V)	9 (69%)	118 (65%)	NS
Localización			
Mitral	8 (61%)	72 (40%)	NS
Aórtica	4 (31%)	76 (42%)	NS
Otras	1 (8%)	32 (18%)	NS
Germen			
Estafilococo	6 (46%)	67 (37%)	NS
Streptococo	7 (54%)	60 (33%)	NS
Otros	0	54 (30%)	NS
Prótesis valvular	11 (85%)	51 (28%)	< 0,001

TABLA 4. Complicaciones en los casos de endocarditis infecciosa recurrente en nuestra serie

Complicaciones	Casos (%)
Insuficiencia cardíaca	4 (31)
Disfunción válvula protésica	6 (46)
Cerebrales	3 (23)
Embolismo periférico	2 (15)
Aneurismas micóticos	1 (7)
Insuficiencia renal	1 (7)

TABLA 3. Características comparativas en el episodio inicial de endocarditis entre los pacientes que después presentaron recurrencia y los que no la presentaron

	Endocarditis recurrente (primer episodio) n = 13	No recurrencia n = 168	p
Edad	44 ± 15	47 ± 20	NS
Sexo (V)	9 (69%)	109 (65%)	NS
Localización			< 0,05
Mitral	8 (61%)	64 (38%)	
Aórtica	4 (31%)	72 (43%)	
Otras	1 (8%)	31 (19%)	
Germen			NS
Streptococo	7 (54%)	53 (31%)	
Estafilococo	3 (23%)	64 (39%)	
Otros	3 (23%)	51 (30%)	
EISP	5 (38%)	46 (27%)	NS
Evolución de los síntomas (días)	28 ± 15	30 ± 15	NS
Abscesos perivalvulares (Eco)	1 (7%)	10 (6%)	NS
Vegetación (Eco)	13 (100%)	166 (99%)	NS
Tamaño de la verruga (mm)	11 ± 3	11 ± 4	NS
Respuesta ATB-fiebre	11 (84%)	144 (85%)	NS
Cirugía precoz	6 (54%)	84 (50%)	NS

- No identificaron ninguna variable de riesgo significativa para el desarrollo posterior de EI recurrente.
- Mortalidad precoz: 30 vs 18% precoz
- Mortalidad tardía: 45 vs 26% tardía (p< 0,05)

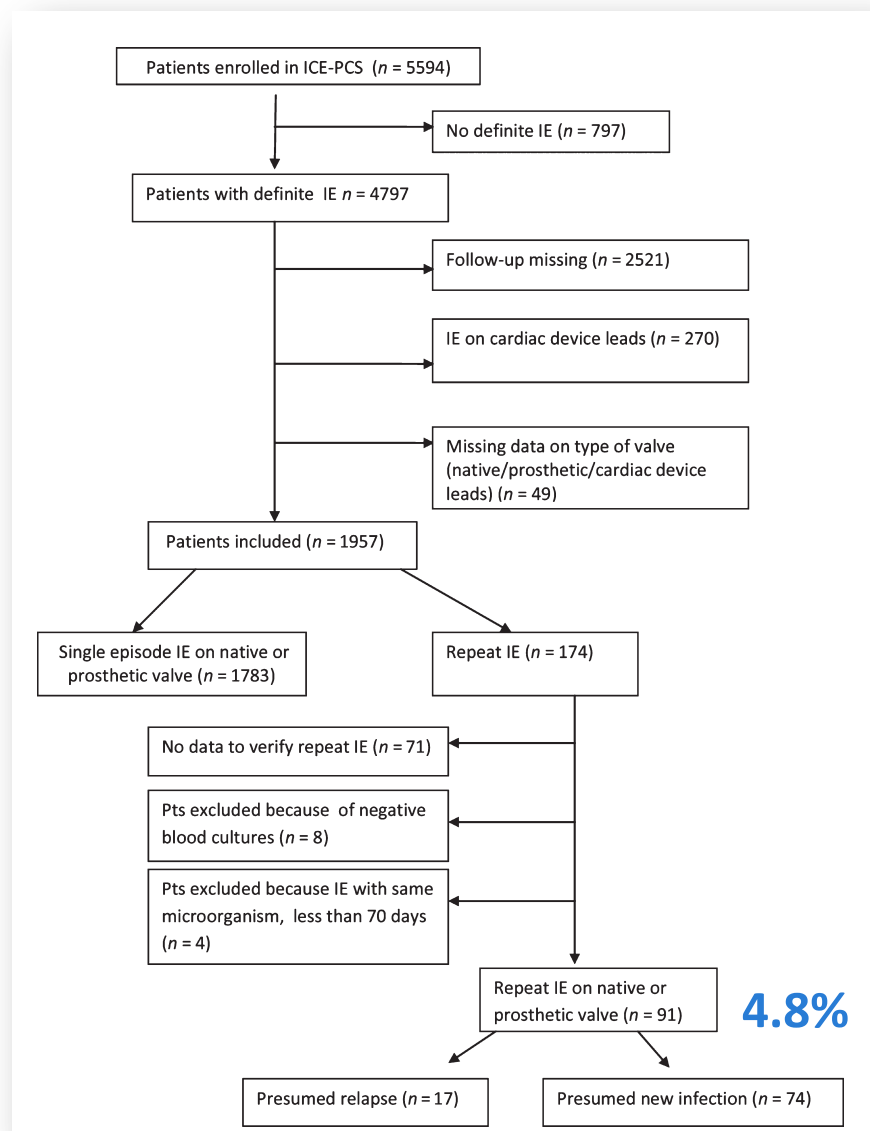
Repeat endocarditis: analysis of risk factors based on the International Collaboration on Endocarditis – Prospective Cohort Study

L. Alagna¹, L. P. Park², B. P. Nicholson³, A. J. Keiger², J. Strahilevitz⁴, A. Morris⁵, D. Wray⁶, D. Gordon⁷, F. Delahaye⁸, J. Edathodu⁹, J. M. Miró¹⁰, N. Fernández-Hidalgo¹¹, F. M. Nacinovich¹², R. Shahid¹³, C. W. Woods², M. J. Joyce², D. J. Sexton¹⁴ and V. H. Chu¹⁴



2000-06

174 recurrencias (8.9%). 81% reinfección 19% recaída
25% ADVP. 13% dialisis. 19% EI antes de entrar en el ICE



Recaídas más frecuentes por *S aureus*, sobre válvula nativa y health-care

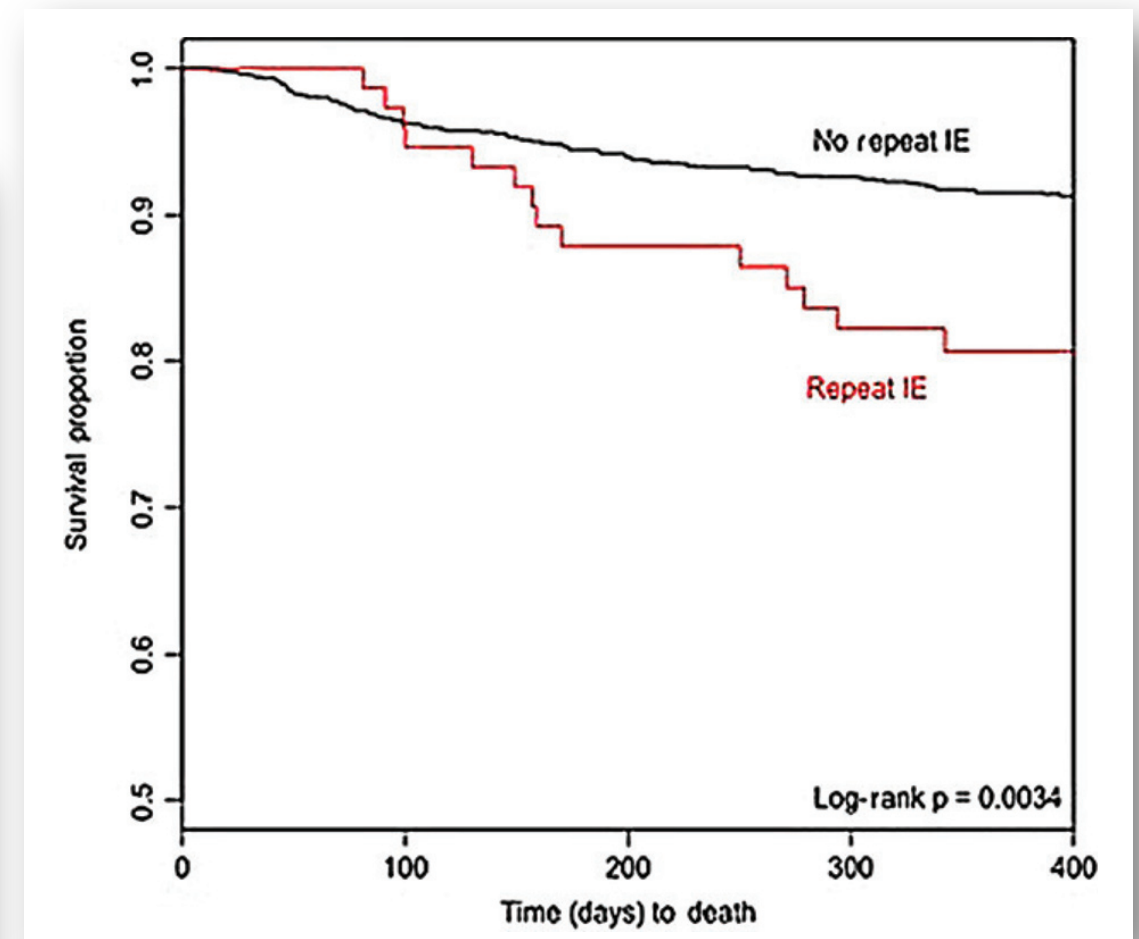
Sample [n (%)]	1783 (95)	91 (4.8)	
Male sex [n (%)]	1213 (68)	63 (69)	0.90
Age median (25th–75th percentiles), yr	58.65 (45–71)	50.94 (38–66)	0.001
Geographical regions [n (%)]			vs. Europe
North America	239 (13)	29 (32)	1.9 (1.1–3.4)
South America	200 (11)	3 (3.3)	0.3 (0.1–1.1)
Europe	815 (46)	37 (41)	<0.001
Australia/Asia/New Zealand	486 (27)	19 (21)	0.7 (0.4–1.3)
Middle East/Africa	43 (2.4)	3 (3.3)	1.2 (0.3–5.3)
Type of valve IE [n (%)]			
Native valve IE	1352 (76)	75 (82)	0.17
Prosthetic valve IE	431 (24)	16 (18)	
Haemodialysis dependent [n (%)]	84 (4.7)	12 (13)	0.002
Diabetes mellitus [n (%)]	256 (14)	19 (23)	0.09
HIV infection [n (%)]	33 (1.8)	6 (6.6)	0.009
IDU [n (%)]	150 (8.2)	23 (25)	<0.001
History of previous endocarditis [n (%)]	135 (7.4)	17 (19)	0.001
History of congenital heart disease [n (%)]	165 (9.2)	8 (8.7)	1.00
Microorganism [n (%)]			
<i>S. aureus</i>	467 (26)	37 (41)	0.003
Coagulase-negative <i>Staphylococcus</i>	123 (6.9)	9 (9.9)	0.28
Viridans group <i>Streptococcus</i>	386 (21)	17 (19)	0.60
<i>S. bovis</i>	139 (7.8)	4 (4.4)	0.31
Other <i>Streptococcus</i>	102 (5.8)	4 (4.4)	0.81
<i>Enterococcus</i>	168 (9.4)	9 (9.9)	0.85
HACEK	28 (1.5)	0	0.4
Fungi	21 (1.1)	1 (1)	1

Repeat endocarditis: analysis of risk factors based on the International Collaboration on Endocarditis – Prospective Cohort Study



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Echocardiographic findings of vegetation on [n (%)]			
Aortic valve	739 (41)	38 (43)	1
Mitral valve	774 (43)	29 (32)	0.03
Tricuspid valve	172 (9.6)	22 (24)	<0.001
Pulmonary valve	16 (0.9)	3 (3.3)	0.06
Myocardial wall	18 (1)	0	1
Chordae	18 (1)	0	1
Paravalvular complication [n (%)]			
Perforation	200 (11)	9 (9.9)	0.86
Abscess	276 (15)	7 (7.7)	0.04
Intracardiac fistula	43 (2.4)	2 (2.1)	1
Prosthetic paravalvular complications [n (%)]			
Dehiscence	77 (4.3)	2 (2.2)	0.32
New regurgitation	101 (5.6)	2 (2.2)	0.16
Presumed place of acquisition [n (%)]			
Community	1389 (78)	70 (76)	0.006
Hospital healthcare	197 (11)	5 (5.5)	
Non-hospital healthcare	106 (6)	14 (15)	
Multiple source	4 (0.2)	0	
Cardiac surgery during this hospitalization [n (%)]	903 (51)	40 (44)	0.19
Cardiac surgery during 1-year follow-up (after discharge) [n (%)]	94 (5.2)	16 (18)	<0.001
Complications [n (%)]			
Stroke	284 (16)	12 (13)	0.55
Embolization	424 (24)	25 (27)	0.44
Heart failure	507 (28)	22 (24)	0.40
Intracardiac abscess	271 (15)	10 (11)	0.29
Persistent positive blood cultures	118 (6.6)	10 (11)	0.13

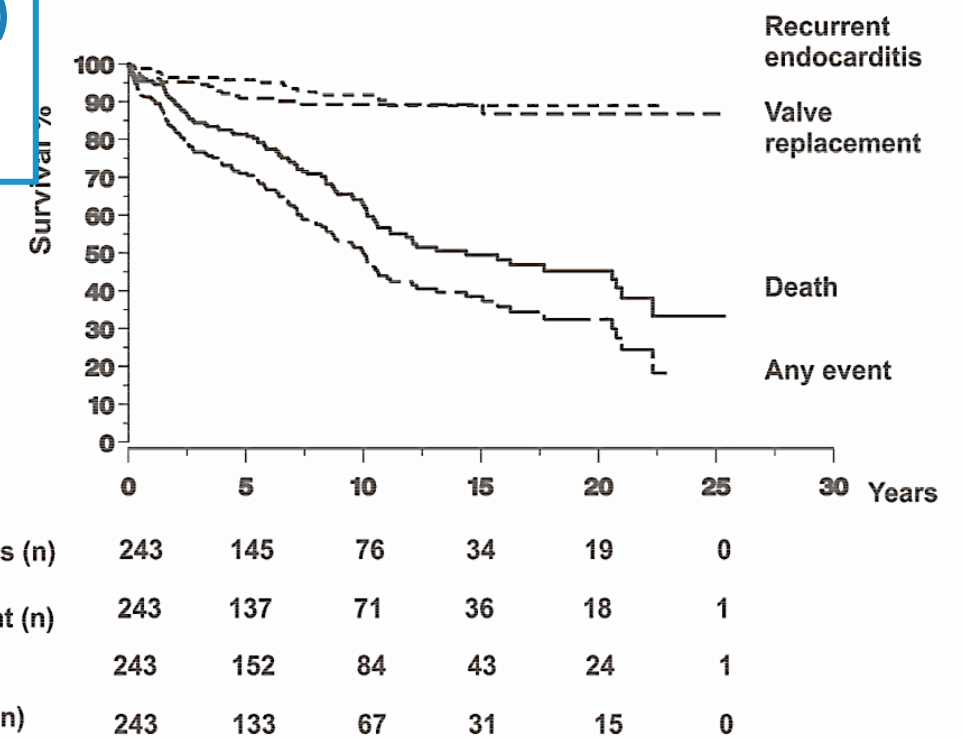
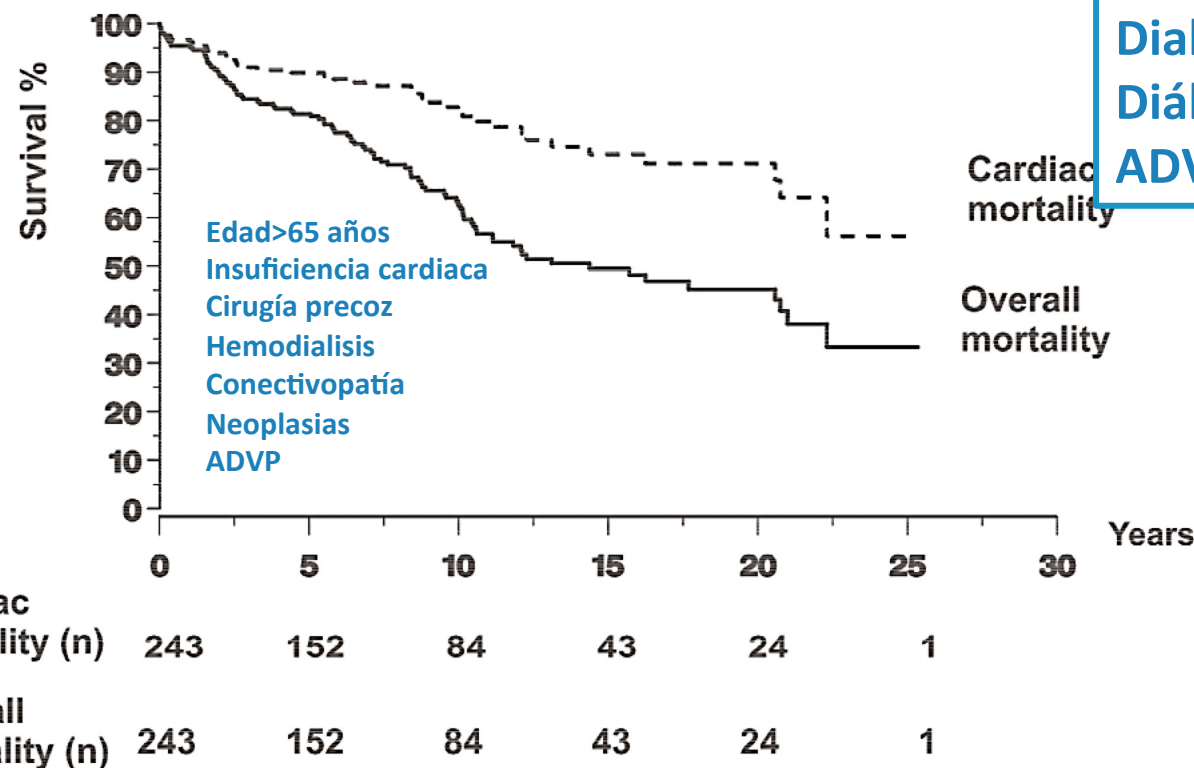


Hemodialysis: OR, 5.1%; CI, 1.0–24

Long-term outcome of infective endocarditis: A study on patients surviving over one year after the initial episode treated in a Finnish teaching hospital during 25 years

Maija Heiro¹, Hans Helenius², Saija Hurme², Timo Savunen³,
Kaj Metsärinne¹, Erik Engblom¹, Jukka Nikoskelainen¹ and
Pirkko Kotilainen*¹

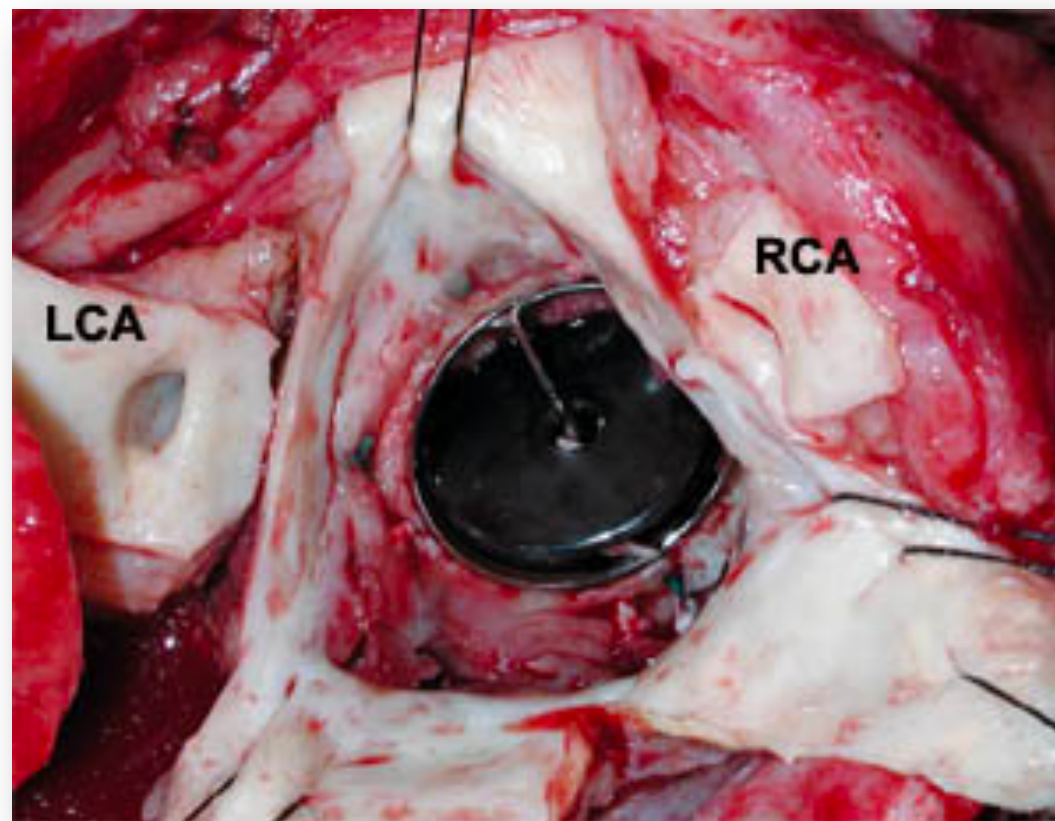
- 226 EI con un año de supervivencia 1980-2004
- Seguimiento medio 7 años (IQR 4.9-11.8 años)
- 23 recurrencias (7%). 22 reinfecciones/1 recaída
- 69% sobre prótesis.



Conclusiones 1

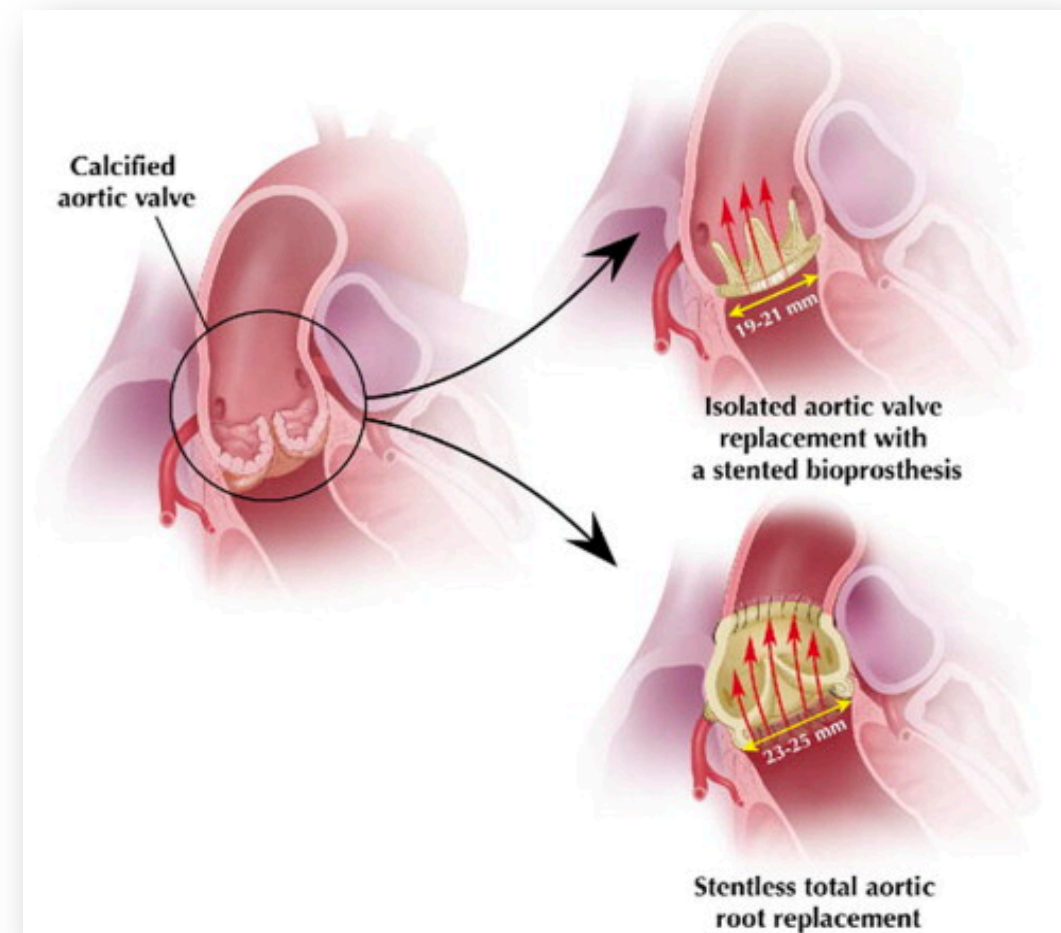
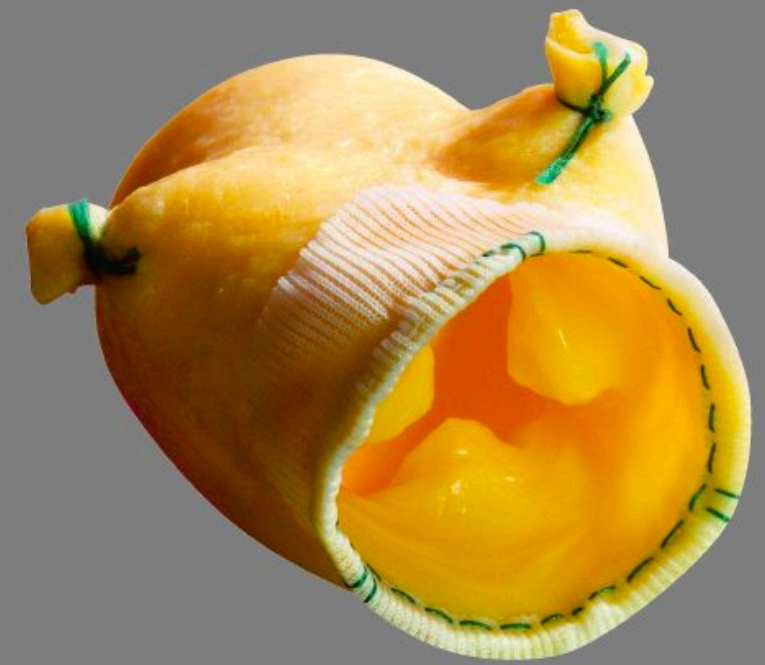
- Complicación poco frecuente en las series no quirúrgicas pero con aumento significativo de la mortalidad
- Importancia de comorbilidades (hemodialisis)
- Más frecuente en El prótesisica, hemodialisis, ADVP.
- Riesgo bajo pero constante en el tiempo
- Suele estar causado por un microorganismo diferente.

¿Que alternativas existen desde el punto de vista quirúrgico para disminuir las recurrencias?



Papel de la cirugía en la endocarditis infecciosa

- Objetivos de la IQ:
 - Desbridamiento quirúrgico amplio de los tejidos infectados
 - Drenaje de abscesos
 - Anclaje de la válvula
 - Restauración de las relaciones anatómicas
 - Prevenir las recurrencias



Problemas quirúrgicos en la endocarditis

- El tipo de prótesis implantada no afecta al riesgo de recurrencias o a la mortalidad.
- 10-30% con afectación paravalvular que aumenta significativamente la mortalidad.
- Homoinjertos: en posición aórtica reduce recurrencias y facilita la reparación en casos complejos.
- Exclusión tejido infectado, resistencia a la infección y evita la anticoagulación.
- Tasa de deterioro similar a las bioprótesis.
- Re-IQ compleja en caso de deterioro del homoinjerto

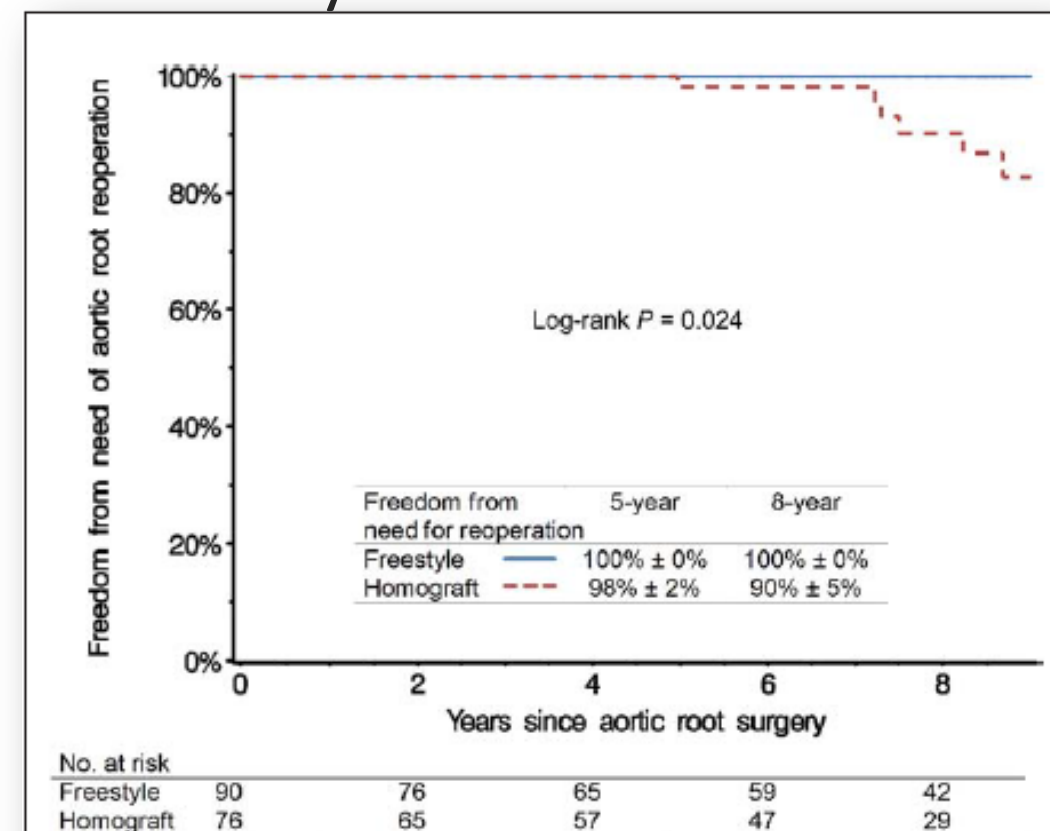


Figure 2

Actuarial Freedom From Reoperation After Freestyle Versus Homograft Root Replacement

Surgical treatment of active infective endocarditis: A continued challenge

Tirone E. David, MD, Gheorghe Gavra, MD, Christopher M. Feindel, MD, Tommaso Regesta, MD, Susan Armstrong, MSc, and Manjula D. Maganti, MSc

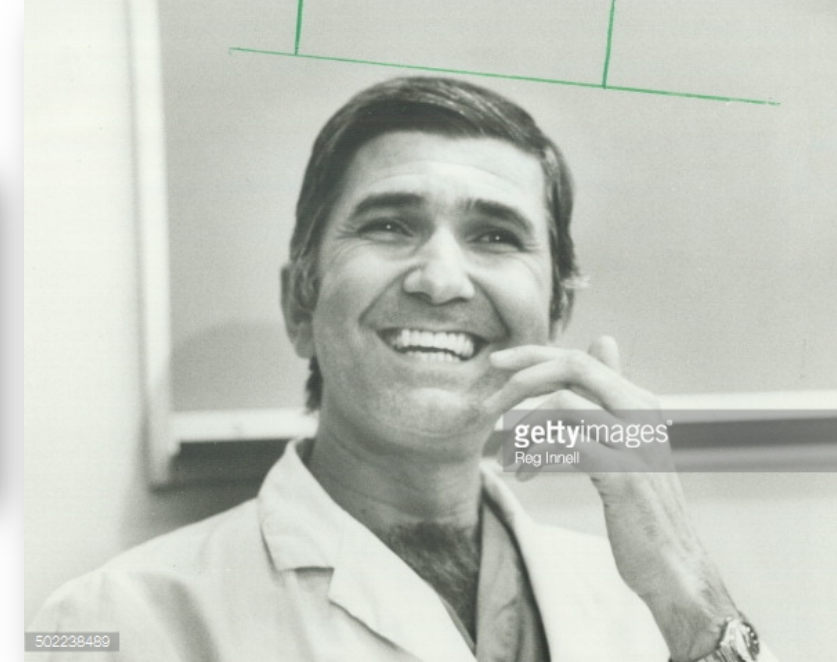


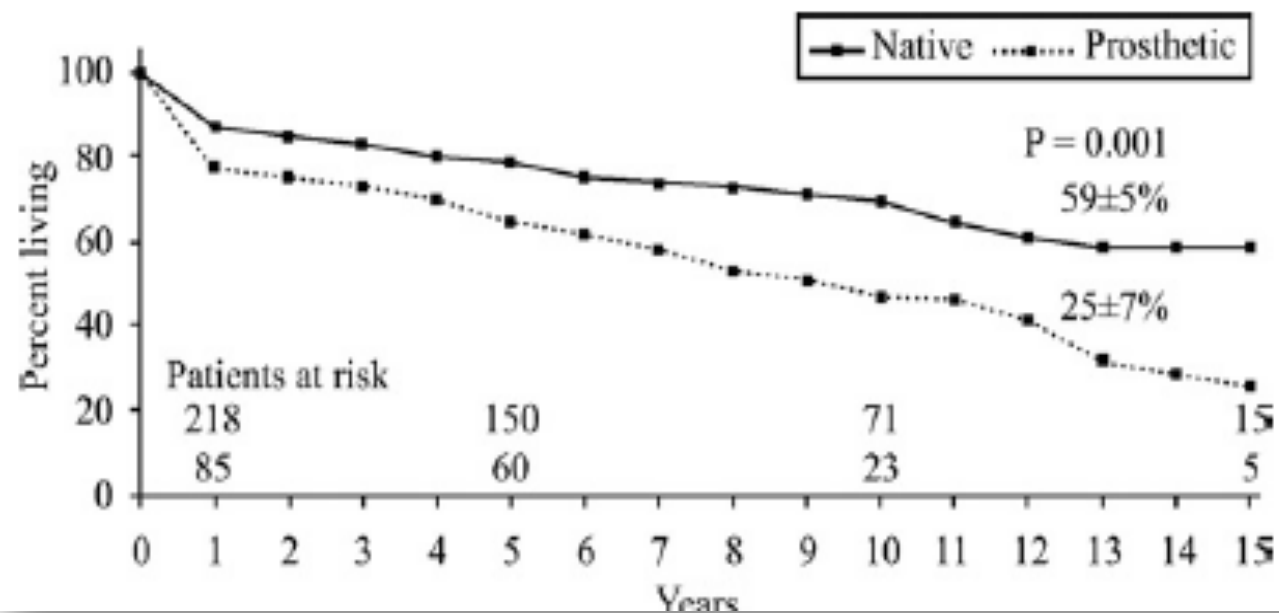
TABLE 3. Operative mortalities in various subgroups

Variable	No.	Operative mortality (%)	P value
Native valve endocarditis	266	8.6	
Prosthetic valve endocarditis	117	18.8	.004
Prosthetic valve endocarditis			
Early (≤ 1 y)	39	25.6	
Late	78	15.4	.033
Preoperative shock	53	35.8	$<.001$
Paravalvular abscess	135	15.5	.054
<i>Staphylococcus aureus</i>	87	17.2	.070
Preoperative renal failure	42	26.2	.002
Recent transient ischemic attack or stroke	45	16	.112
Ejection fraction $<40\%$	43	14	.095
Timing of surgery			
Same hospitalization	206	7.8	
Urgent or emergency	177	16.4	.003
Valve infected			
Aortic valve	160	10	
Mitral valve	109	11	
Aortic and mitral valves	92	14	
Other valves	22	18	.145

- 383 EI 1978 y 2004
- 32 (8.3%) recurrencias.
- 10 primer año. 22 más allá del primer año.
- 64% por microorganismo diferente.
- NO relación entre el tipo de prótesis implantada y recurrencia

Surgical treatment of active infective endocarditis: A continued challenge

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- 10 pacientes relQ (1 muerte)
- 22 tto médico (68% de mortalidad)

Regresión de Cox

Edad	HR 1.15 (95% CI 1.07-1.24)
PVE	HR 1.8 (95% CI 1.2-2.7)
FEVI<40%	HR 1.8 (95% CI 1.1-2.7)
EI recurrente	HR 2.2 (95% CI 1.2-3.9)
Shock	HR 2.5 (95% CI 1.6-4.0)

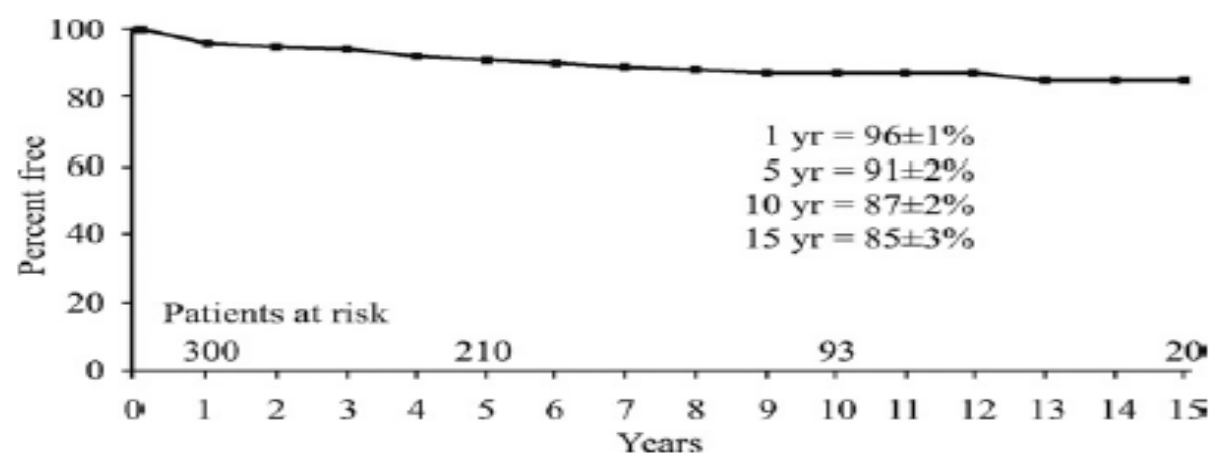
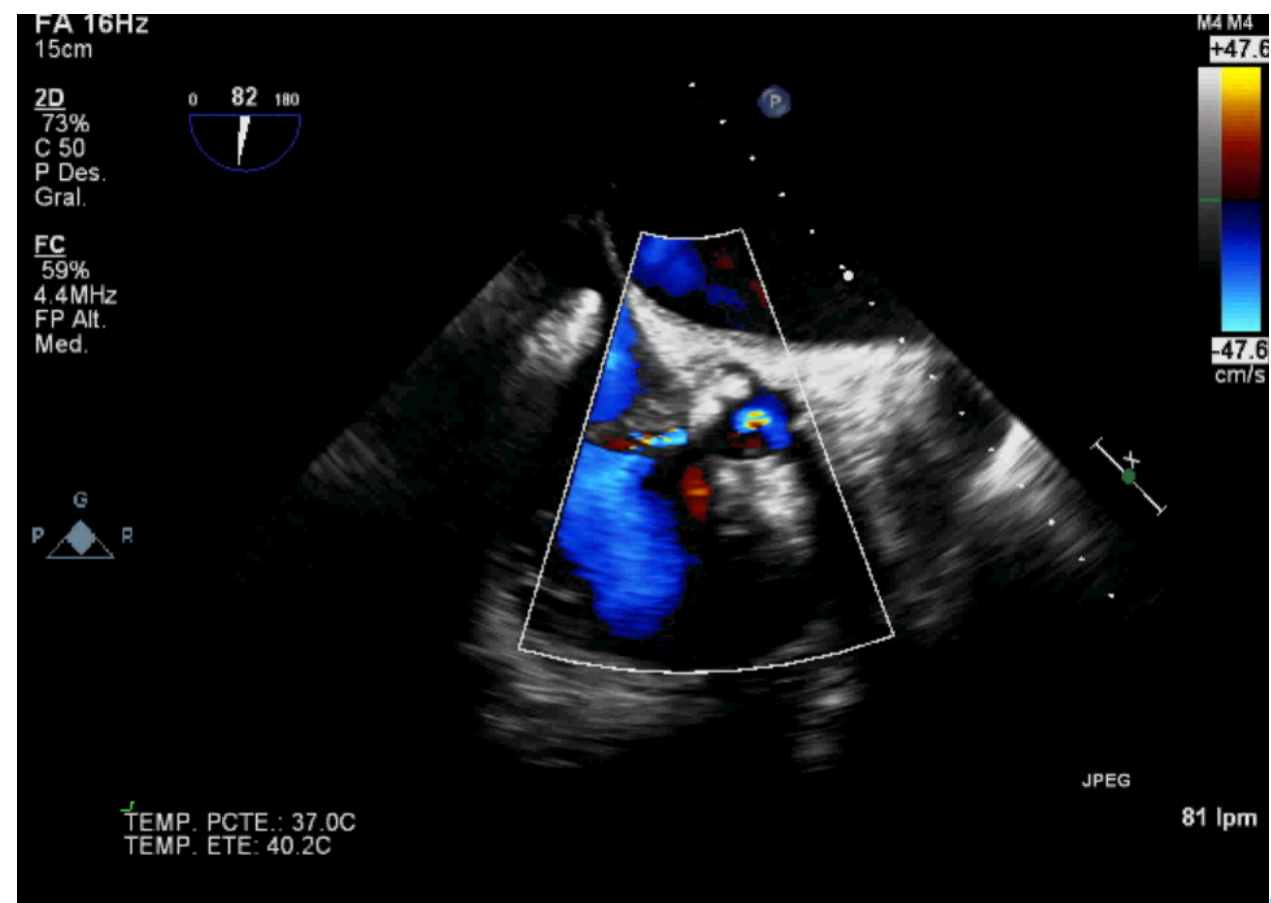
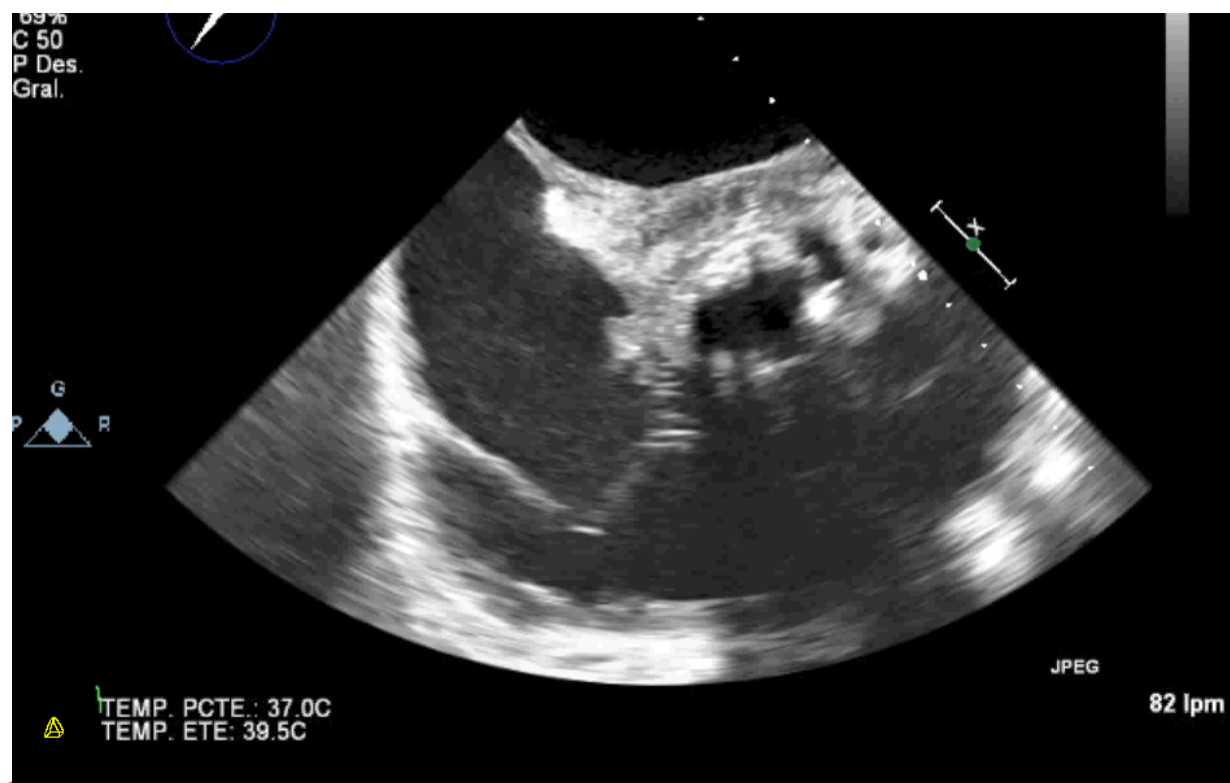
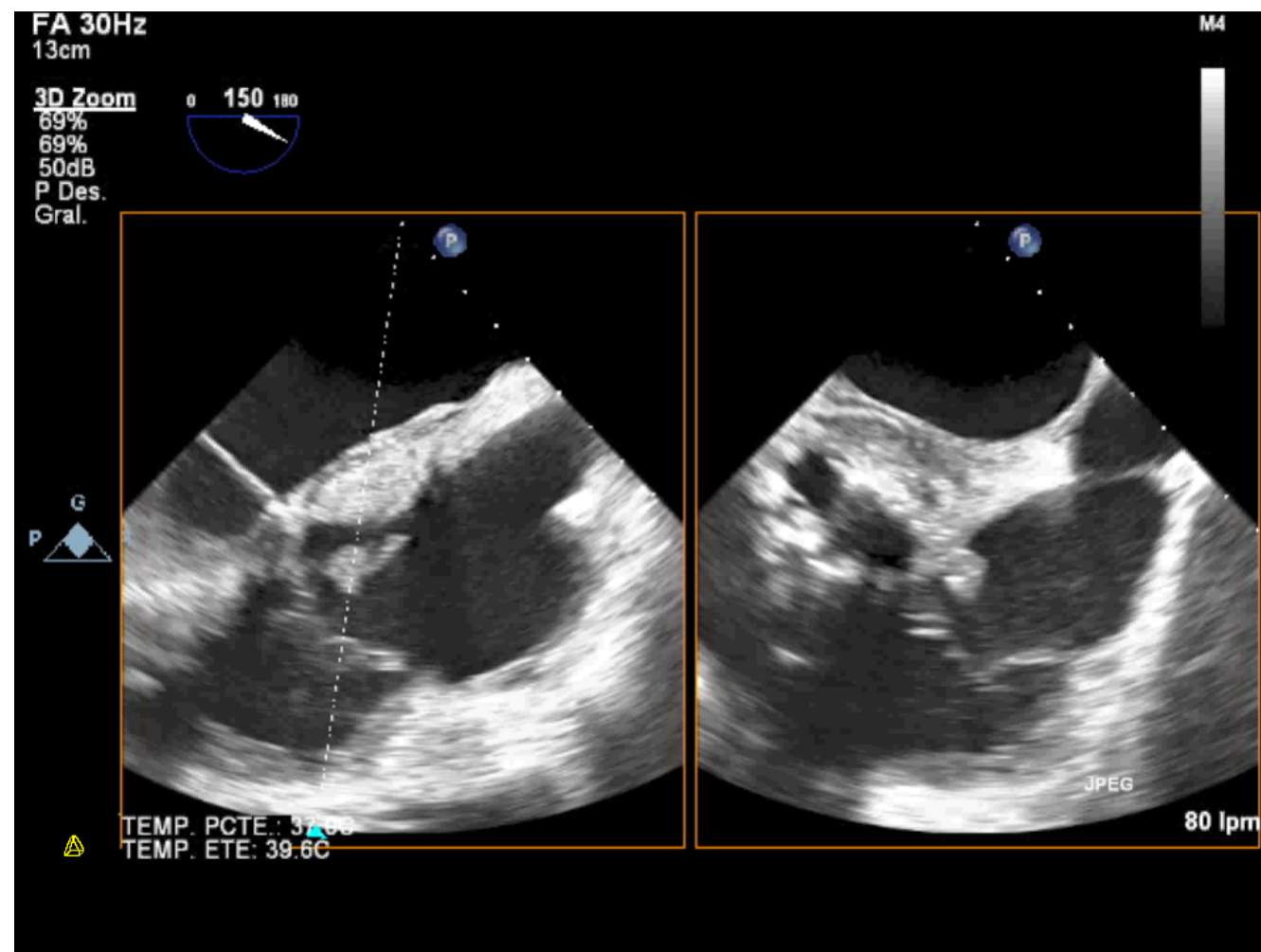
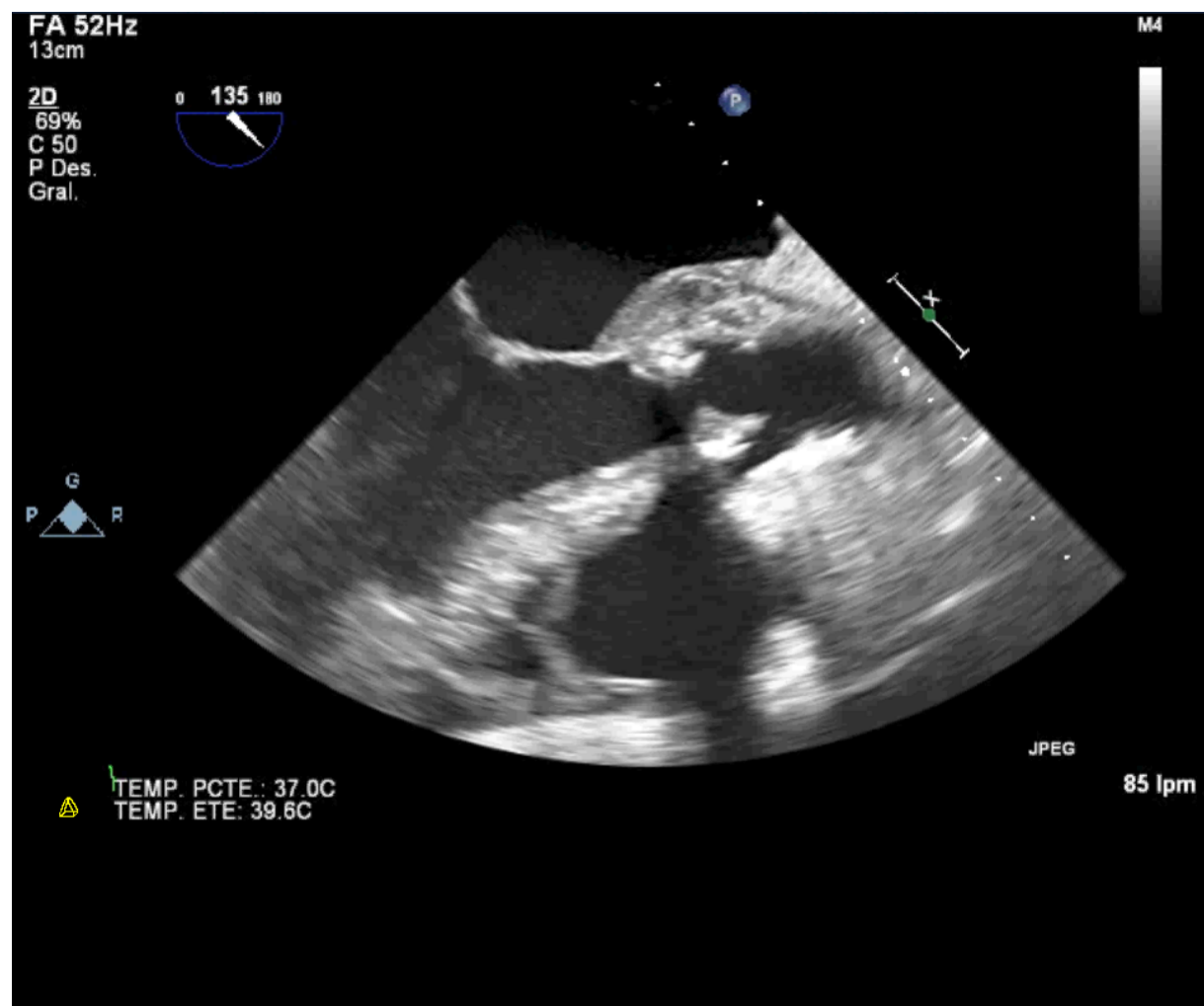


Figure 2. Freedom from recurrent infective endocarditis for all patients.

to the type of valve used for replacement.² We believe that aortic homograft is ideally suited for reconstruction of the aortic root, however, because it is easier to handle than prosthetic materials and its anterior leaflet of the mitral valve can be used to patch defects created by the resection of the abscess. Although there is a lot of information on

15 12



Aortic Root Replacement With Cryopreserved Allograft for Prosthetic Valve Endocarditis

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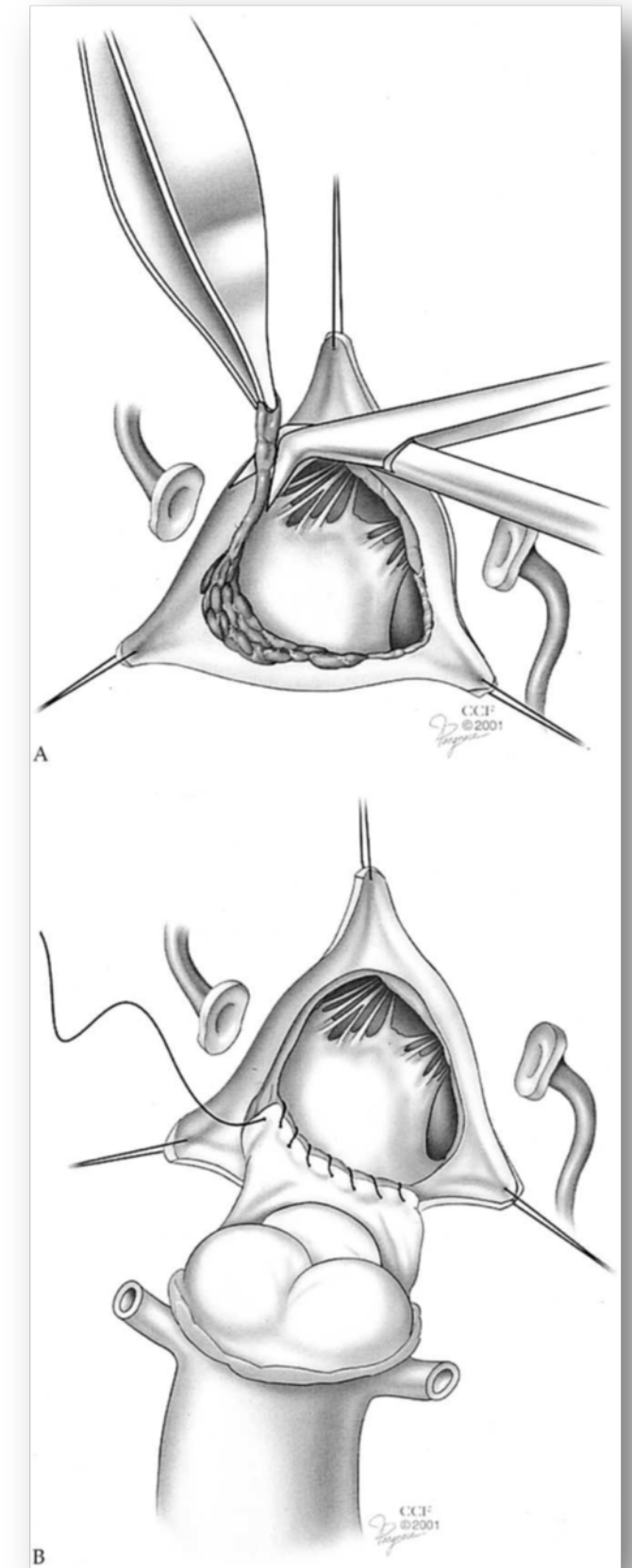
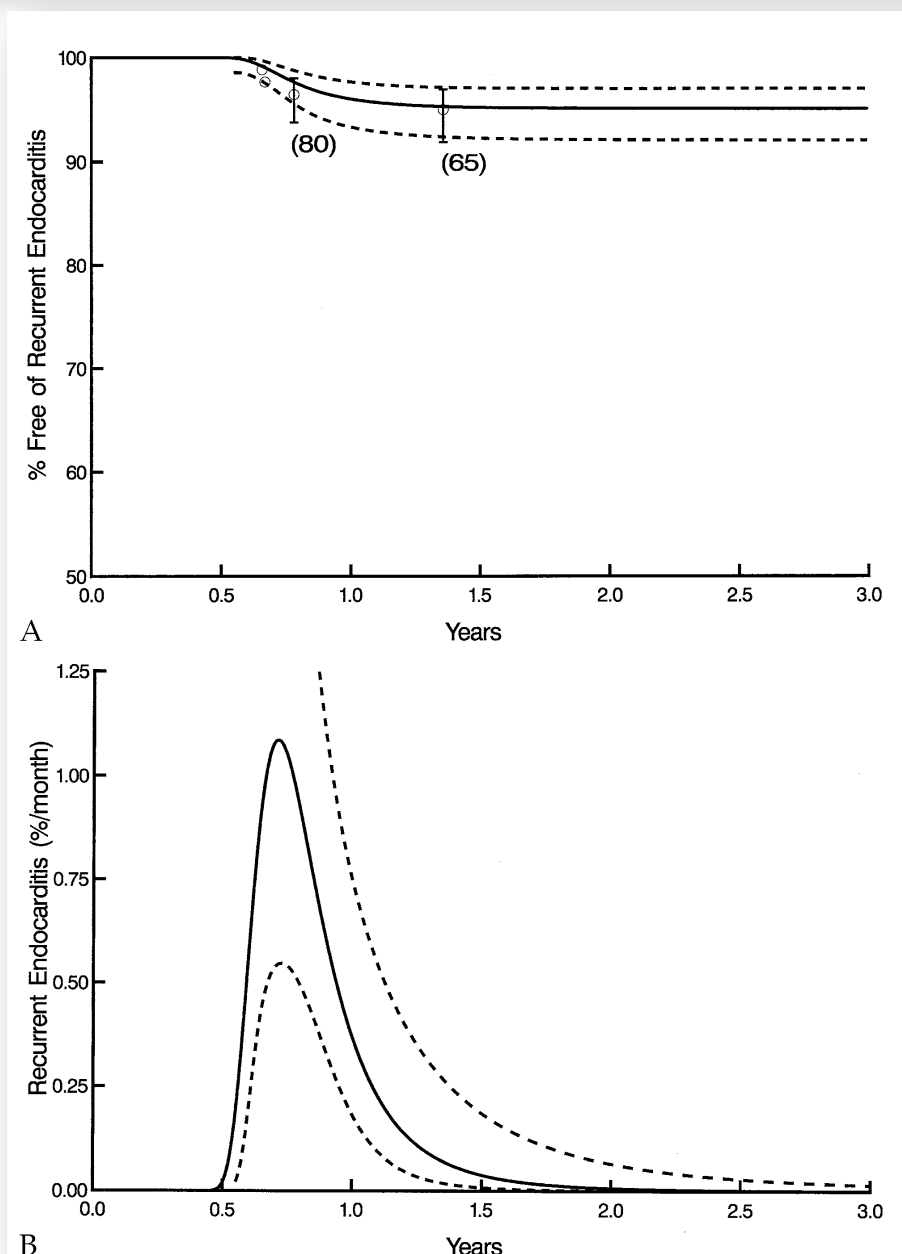
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Cleveland, Ohio

- 103 pacientes con PVE (1988-2000)
- 22% habían tenido EI previa
- 78% con abscesos de raíz aortica
- 15% Fistulas
- 40% discontinuidad aortoventricular
 - Marcapasos 30%
 - Insuf renal 23%
 - Insuf respiratoria 21%
 - Mortalidad hospitalaria 3.9%
 - **3.8% de recurrencias con necesidad de ReIQ (S aureus, S epidermidis, Enterococo)**

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Surgical Treatment of Aortic Prosthetic Valve Endocarditis: A 20-Year Single-Center Experience

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Table 2. Intraoperative and Postoperative Variables in All Patients and in Patients Operated on 1993–2003 and 2004–2013^a

Variable	All Patients	Patients Operated on 1993–2003	Patients Operated on 2004–2013	p Value
No. of operations	87	32	55	
Procedures				
Root replacement	59 (68%)	23 (72%)	36 (65%)	0.54
Isolated valve replacement	28 (32%)	9 (28%)	19 (35%)	0.54
Type of prosthesis implanted				
Homograft	56 (64%)	22 (69%)	34 (62%)	0.52
Mechanical prosthesis	20 (23%)	9 (28%)	11 (20%)	0.39
Biological prosthesis	11 (13%)	1 (3%)	10 (18%)	0.042
Early PVE (<12 mo)	34 (40%)	16 (50%)	18 (33%)	0.11
Late PVE (>12 mo)	53 (60%)	16 (50%)	37 (67%)	0.11
Extracorporeal circulation time, min	230 ± 82	236 ± 78	227 ± 85	0.62
Aortic clamp time, min	168 ± 51	171 ± 49	165 ± 52	0.61
Microorganism				
Staphylococcus	23 (27%)	11 (34%)	12 (22%)	0.200
Streptococcus	28 (32%)	6 (19%)	22 (40%)	0.041
Others	16 (18%)	6 (19%)	10 (18%)	0.95
Negative culture result	20 (23%)	9 (28%)	11 (20%)	0.39
Respiratory time, h	49 ± 105	43 ± 83	52 ± 117	0.24
ICU stay, d	4.8 ± 5.4	5.7 ± 5.9	4.3 ± 5.1	0.032
Length of stay, d	11 ± 7	13 ± 8	10 ± 6	0.024
Serum creatinine postoperatively, µg/L	113 ± 51	133 ± 51	102 ± 48	0.010
30-day mortality	9 (10%)	7 (22%)	2 (3.6%)	0.007
Complications ^b	36 (41%)	16 (50%)	20 (36%)	0.21
Dialysis	15 (17%)	6 (19%)	9 (16%)	
Pacemaker	15 (17%)	5 (16%)	10 (18%)	
Respiratory failure	14 (16%)	6 (19%)	8 (15%)	
Myocardial infarction	12 (14%)	8 (25%)	4 (7%)	
New stroke	11 (12%)	2 (6%)	9 (16%)	
Inotropic support	48 (55%)	24 (75%)	24 (44%)	0.005
Reoperation for bleeding	25 (29%)	11 (34%)	14 (25%)	0.38
Concomitant operations	25 (29%)	9 (28%)	16 (29%)	0.92
CABG	5	3	2	
Mitral valve repair	3	1	2	
MVR	4	2	2	
Tricuspid valve repair	1	1	0	
AA replacement	5	1	4	
Tricuspid valve repair + atrial septal defect repair	1	0	1	
CABG + AA replacement	1	0	1	
Ventricular septal defect	2	0	2	
Lung vein isolation	1	0	1	
Enlargement of pulmonary artery	1	1	0	
Mitral valve repair + left atrial roof reconstruction	1	0	1	

- 84 PVEI (1993-2013)
- 83% con afectación paravalvular
- 4.5% recurrencias. RelQ 37,56 y 68 meses homoinjerto
- Ninguna recurrencia en el grupo homoinjerto vs 4 (13%) recurrencias en el grupo valvular.
- 3/56 (5.3%) fallo del homoinjerto a 6, 7 y 10 años.

Predictors of recurrence and reoperation for prosthetic valve endocarditis after valve replacement surgery for native valve endocarditis

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Columbia 1975-2000. 358 El manejadas quirúrgicamente.
21% de complicaciones perivalvulares
8.3% de recurrencias.
Mortalidad quirúrgica 8.4%

TABLE 4. Predictors for recurrent infection (univariate analysis and multivariate analyses)

Independent predictors	Univariate		Multivariate	
	Hazard ratio (95% CI)	P value	Hazard ratio (95% CI)	P value
Age	0.972 (0.948–0.998)	.033	0.984 (0.955–1.015)	0.312
Gender				
Male > female	1.351 (0.627–2.913)	.442		
Valve position		.497		
MVR	0.634 (0.234–1.715)	.369		
MR	1.612 (0.635–4.094)	.315		
Valve type				
BP > MP	2.683 (1.083–6.644)	.033	1.891 (0.673–5.313)	0.227
IVDU HIV drug user or HIV				
Yes	13.135 (6.246–27.620)	<.0001		
Disease		.334		
Abscess ± fistula	1.910 (0.760–4.796)	.169		
Fistula only	2.030 (0.271–15.191)	.491		
IVDU + HIV + Tech		<.0001		
IVDU/HIV: patch + valve	51.985 (17.913–150.865)	<.0001	34.250 (10.674–109.899)	<0.0001
IVDU/HIV: suture + valve	22.627 (2.838–180.392)	.003	27.419 (3.030–248.154)	0.003
IVDU/HIV: valve only	7.394 (2.946–18.555)	<.0001	5.869 (2.225–15.477)	0.0003
NO: patch + valve	—	—	0.000 (0.000)	0.983
NO: suture + valve	0.719 (0.095–5.462)	.749	0.689 (0.089–5.334)	0.721
NO: valve only (baseline)	—	—	—	—
Valve type in combination IVDU + HIV		<.0001		
MP: no IVDU or HIV	9.375 (3.061–28.712)	.244		
BP: yes IVDU or HIV	12.324 (0.5363–28.318)	<.0001		
MP: yes IVDU or HIV	5.401 (1.165–25.035)	.031		
Surgery technique		.005		
Patch + valve	4.726 (1.850–12.072)	.001		
Suture + valve	1.052 (0.246–4.504)	.945		

CI, Confidence interval; MVR, mitral valve replacement; MR, multiple replacement; IVDU, intravenous drug use; HIV, human immunodeficiency virus; MP, mechanical prosthesis; BP, bioprosthetic.

Solo la edad y las reconstrucciones complejas en pacientes VIH/ADVP tenían significación estadística en el análisis multivariable

Surgical Management of Endocarditis: The Society of Thoracic Surgeons Clinical Practice Guideline

John G. Byrne, MD, Katayoun Rezai, MD, Juan A. Sanchez, MD, MPA,
Richard A. Bernstein, MD, PhD, Eric Okum, MD, Marzia Leacche, MD,
Jorge M. Balaguer, MD, Shyam Prabhakaran, MD, MS, Charles R. Bridges, MD, ScD,
and Robert S. D. Higgins, MD, MSHA

1. When surgery is indicated, a mechanical or stented tissue valve is reasonable in native aortic valve endocarditis if the infection is limited to the native aortic valve or to the aortic annulus. Valve choice should be based on age, life expectancy, comorbidities, and compliance with anticoagulation. (Class IIa, Level of evidence B)
2. A homograft may be considered in native aortic valve endocarditis when the infection is limited to the native aortic valve or to the aortic annulus. (Class IIb, Level of evidence B)

B) Native aortic valve endocarditis with periannular abscess

1. When periannular abscess is associated with IE, it is reasonable to use a mechanical or stented tissue valve if radical debridement is carried out and the valve can be anchored to healthy and strong tissue. (Class IIa, Level of evidence B)
2. It may be reasonable to use a homograft in native aortic valve endocarditis with periannular abscess and extensive annular or aortic wall destruction requiring aortic root replacement/reconstruction or extensive aortic-ventricular discontinuity. (Class IIb, Level of evidence B)

C) Prosthetic aortic valve endocarditis

1. When surgery is indicated, in patients with aortic PVE limited to the prosthesis without aortic root abscess, and no annular destruction, it is reasonable to implant a mechanical or stented tissue valve. (Class IIa, Level of evidence B)

1. A homograft can be beneficial in aortic PVE when periannular abscess or extensive ventricular-aortic discontinuity is present, or when aortic root replacement/reconstruction is necessary because of annular destruction or destruction of anatomical structures. (Class IIa, Level of evidence B)

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III) Mitral Valve Endocarditis

A) Native mitral valve endocarditis

1. When technically feasible, mitral valve repair is recommended to treat native mitral valve endocarditis. (Class I, Level of evidence B)
2. When surgery is indicated, mechanical or stented tissue valves can be useful for mitral valve replacement as appropriate given age, life expectancy, and comorbidities. (Class IIa, Level of evidence B)

Ventajas

- Preservación función ventricular
- Evita complicaciones relacionadas con las prótesis-anticoagulación
- Menor mortalidad a corto y largo plazo
- Menor necesidad de relQ
- Menor incidencia de EI recurrente

Desventajas

- Durabilidad de la reparación
- Resección incompleta del tejido infectado
- Necesidad de anuloplastia

Conclusiones 2

- Es fundamental un desbridaje quirúrgico amplio
- De manera global no parece que el tipo de prótesis implantada tenga influencia en las recurrencias.
- En casos raíz aórtica complicada (particularmente en PVEI) nosotros apostamos por el implante de homoinjerto



Muchas gracias